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Editor-in-Chief / Rédactrice en chef : Martine Hébert, Université du Québec à Montréal
Co-Editors / Corédactrices : Tara Black, University of Toronto,
Isabelle Daigneault, Université de Montréal, and
Rachel Langevin, McGill University

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International Journal of Child and Adolescent Resilience
Revue internationale de la résilience des enfants et des adolescents

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International Journal of Child and Adolescent Resilience
Revue internationale de la résilience des enfants et des adolescents

Introduction: IJCAR – 2020 Issue

Dear readers, I am pleased to introduce the 2020 Issue of IJCAR, the International Journal of Child and Adolescent Resilience. We have to recognize that we are confronted with an unprecedented situation in the COVID-19 pandemic. Across the world, we are all trying to manage and adapt in these uncertain times. Research on resilience and factors promoting adaptation despite adversity should thus be at the forefront of our preoccupations. Indeed, what we have learned in the past decades in this area of research can inform as to which strategies to focus on to alleviate distress and build upon individual and collective strengths to foster positive outcomes for youth and their families.

This is the first issue for which I have the pleasure to act as Editor-in-Chief. IJCAR is now published with the support of the Canada Research Chair in Interpersonal Traumas and Resilience. As you can see, the journal has a new look. We have chosen the dandelion as our emblem due to its capacity to thrive in difficult conditions. The dandelion represents the ability to rise above life's challenges.

It is worth mentioning that IJCAR now solicits different manuscript formats. In addition to original research articles, we now accept submissions of brief reports and review articles that aim to provide a synthesis and critical analysis of existing published literature. We also accept theoretical papers, clinical intervention papers that provide descriptions of innovative intervention or prevention approaches that aim to promote resilience, as well as commentaries.

In the 2020 issue, we have introduced several new elements. First, we have the pleasure of presenting a feature paper in both English and in French. This paper is written by Dr. Sherry Hamby, a renowned expert in the field of resilience. Hamby and colleagues used a dual-factor approach to examine associations between seeking and receiving social support. Also Dr. Christine Wekerle, founder of the journal, presents a thoughtful commentary on Dr. Hamby's research.

This issue includes four regular articles on different aspects of resilience. First, Jean-Thorn and colleagues provide evidence of reliability and validity for the Connor-Davidson Resilience scale (CD-RISC 10; Campbell-Sills & Stein, 2007; Hébert et al., 2018) used in a sample of mothers of sexually abused children. Then, Cabecinha-Alati and her colleagues present a novel conceptual model that elucidates some of the mechanisms involved in the intergenerational transmission of emotion dysregulation among mothers with a history of childhood maltreatment. In the following paper, Guyon and her colleagues provide a qualitative meta-synthesis that enriches the actual body of knowledge by identifying key aspects of the recovery process of child sexual abuse survivors. Finally, Vakili and colleagues examine the impact of the Instagram platform for disseminating sensitive topics about youth resilience research.

In addition to these regular articles, we also have a thematic section focused on complex trauma arising for the 3rd Annual Complex Trauma Symposium held in Montreal in 2019. This section presents nine articles and are introduced by our colleague, Dr. Delphine Collin-Vézina, who organized the symposium.

With 15 different manuscripts, the 2020 issue is the largest edition since the creation of the IJCAR. As this was my first experience as Editor-in-Chief, I have to admit that I faced several challenges in familiarizing myself with the submission, revision, and production process. Getting through the different steps was possible because I was able to rely on a very supportive and efficient team. As associate editors, Dr. Isabelle Daigneault, Dr. Rachel Langevin and Dr.

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Tara Black were truly indispensable teammates in these last months and made this adventure enjoyable despite the challenges encountered. I wish to take this opportunity to warmly thank Catherine Moreau, managing editor, who guided us through the publication process and Manon Robichaud, layout editor, who meticulously laid out the manuscripts. Andréanne Fortin did a rigorous job as the senior copyeditor and harmoniously orchestrated the team of junior copy editors whom we would also like to thank: Ruo Feng, Ihssane Fethi, Marie Emma Gagné, Audrey Kern, Carley Marshall, Queeny Pognon and Aimée Wallace.We also wish to thank members of the editorial team who contributed to the revision of manuscripts and our authors for their patience with the publication deadlines. We hope you enjoy your reading!

Don't forget to prepare your manuscripts for the 2021 issue. In addition to regular papers, we will feature a thematic section on Resilience and cultural considerations. Submit your manuscripts in English or in French. Please feel free to send the information to colleagues and students who may be interested.

Martine Hébert, Editor-in-Chief

International Journal of Child and Adolescent Resilience
Revue internationale de la résilience des enfants et des adolescents

Introduction: RIREA – Volume 2020

Chers lecteurs, j'ai le plaisir de vous présenter le numéro 2020 de RIREA, la Revue Internationale de la Résilience des Enfants et des Adolescents. Nous devons reconnaître que nous sommes confrontés à une situation incomparable avec la pandémie de la COVID-19. À travers le monde, chacun tente de gérer et de s'adapter en ces temps incertains. La recherche sur la résilience et les facteurs favorisant l'adaptation malgré l'adversité est donc au premier plan de nos préoccupations. En effet, ce que nous avons appris au cours des dernières décennies dans ce domaine de recherche peut nous éclairer sur les stratégies à mettre en œuvre pour atténuer la détresse et s'appuyer sur les forces individuelles et collectives pour favoriser une adaptation positive pour les jeunes et leurs familles.

Ce numéro est le premier pour lequel j'ai le plaisir d'agir en tant que rédactrice en chef. La revue est maintenant publiée avec le soutien de la Chaire de recherche du Canada sur les traumas interpersonnels et la résilience. Comme vous pouvez le constater, la revue a un nouveau look. Nous avons choisi le pissenlit comme emblème en raison de sa capacité à prospérer dans des conditions difficiles, c'est pourquoi on dit qu'il représente la capacité à s'élever au-dessus des défis de la vie.

Il convient de mentionner que la RIREA sollicite désormais différents formats de manuscrits. En plus des articles de recherche originaux, nous acceptons maintenant des soumissions sous forme de rapports brefs et d'articles de recension qui visent à fournir une synthèse et une analyse critique de la littérature existante. Nous acceptons également les articles théoriques, les articles sur des interventions qui fournissent une description des approches d'intervention ou de prévention innovantes visant à promouvoir la résilience ainsi que des commentaires.

Dans le numéro de 2020, nous avons introduit plusieurs nouveaux éléments. Tout d'abord, nous avons le plaisir de présenter un article vedette à la fois en anglais et en français. Cet article est rédigé par Dre Sherry Hamby, experte reconnue dans le domaine de la résilience. Dre Hamby et ses collègues ont utilisé une approche à double facteur pour examiner les associations entre la recherche et l'obtention de soutien social. Dre Christine Wekerle, fondatrice de la revue, nous présente ensuite un commentaire étoffé sur les recherches de Dre Hamby.

De surcroît, ce numéro comprend quatre articles réguliers sur différents aspects de la résilience. Premièrement, Jean-Thorn et ses collègues présentent des données attestant de la fidélité et de la validité de l'échelle de résilience Connor-Davidson (CD-RISC 10 ; Campbell-Sills & Stein, 2007 ; Hébert et al., 2018) utilisée dans un échantillon de mères d'enfants victimes d'agression sexuelle. Ensuite, Cabecinha-Alati et ses collègues présentent un nouveau modèle conceptuel qui élucide certains des mécanismes impliqués dans la transmission intergénérationnelle de la dysrégulation émotionnelle chez les mères ayant des antécédents de maltraitance dans l'enfance. Dans l'article suivant, Guyon et ses collègues présentent une méta-synthèse qualitative qui enrichit le corpus de connaissances actuelles en identifiant les aspects-clés du processus de rétablissement des enfants ayant survécu à des agressions sexuelles. Enfin, Vakili et ses collègues ont évalué la portée de la diffusion d'une page Instagram, publiant des contenus à thématiques sensibles et liées à la résilience des jeunes, sur ses visiteurs.

En plus de ces articles réguliers, nous avons également une section thématique axée sur les traumas complexes découlant du 3e Symposium annuel sur les traumatismes complexes qui s'est tenu à Montréal en 2019. Cette section présente neuf articles et est introduite par notre collègue, Dre Delphine Collin-Vézina, organisatrice du symposium.

Avec 15 manuscrits, l'édition 2020 est la plus importante depuis la création de la RIREA. Comme il s'agissait de ma première expérience en tant que rédactrice en chef, je dois admettre que j'ai dû relever plusieurs défis pour me familiariser avec le processus de soumission, de révision et de production. Naviguer au travers des différentes étapes a été possible grâce à l'aide d'une équipe très solidaire et efficace. En tant que rédactrices associées, Dre Isabelle Daigneault, Dre Rachel Langevin et Dre Tara Black ont été des coéquipières précieuses au cours de ces derniers mois et ont rendu cette aventure agréable malgré les difficultés rencontrées. Je profite de cette occasion pour remercier chaleureusement Catherine Moreau, directrice de la rédaction, qui nous a guidés tout au long du processus de publication, et Manon Robichaud, responsable de la mise en page, qui a minutieusement achevé la mise en page des articles. Andréanne Fortin a fait un travail rigoureux en tant qu'éditrice d'épreuve senior et a orchestré harmonieusement l'équipe d'éditrices d'épreuve juniors que nous tenons également à remercier : Ruo Feng, Ihssane Fethi, Marie Emma Gagné, Audrey Kern, Carley Marshall, Queeny Pognon et Aimée Wallace. Nous tenons également à remercier les membres du comité éditorial qui ont contribué à la révision des manuscrits et les auteurs pour leur patience face aux délais de publication de ce numéro. Nous espérons que vous apprécierez votre lecture !

N'oubliez pas de préparer vos manuscrits pour le numéro 2021. En plus des articles réguliers, nous présenterons une section thématique sur la résilience et les considérations culturelles. Soumettez vos manuscrits en anglais ou en français. N'hésitez pas à diffuser l'invitation à vos collègues et aux étudiants qui pourraient être intéressés.

Martine Hébert, Rédactrice en chef

International Journal of Child and Adolescent Resilience
Revue internationale de la résilience des enfants et des adolescents

Is it better to seek or to receive? A dual-factor model of social support

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Abstract

Objectives: This study adopts a dual-factor approach to examine the association of seeking and receiving social support with 6 indicators of current functioning and 14 psychosocial strengths.

Methods: A survey completed by 440 youth ages 10 to 21 ($M = 16.38$, $SD = 3.04$) assessed strengths, functioning, and victimization. Youth were classified into four groups: Interconnected (high on social support seeking and receiving; 33% of sample), Rebuffed (high on social support seeking, low on social support receiving; 12%), Tended (low on social support seeking, high on social support receiving; 16%), and Isolated (low on social support seeking and receiving; 39%).

Results: Controlling for age, gender, and victimization, the social support group was associated with each meaning making, regulatory, and interpersonal strength, and every indicator of current functioning except trauma symptoms. The Isolated group scored lowest on all measures and the Interconnected group scored highest on 19 of 20 measures. The mixed profile groups fell between these extremes. Notably, the Rebuffed group reported higher levels of some strengths and non-theistic spiritual well-being than the Tended group. The Tended group was never significantly higher than the Rebuffed group.

Implications: Individual skills and attitudes regarding helpseeking may be more impactful than social support provided by others. Rebuffed youth may be steeling themselves in other strengths when the social environment is not supportive.

Keywords: Social support; resilience; social ecology; youth, social support seeking; social support received.

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Introduction

Social support has been found to be an important protective factor in numerous studies on victimization, resilience, and many related phenomena in children and adolescents (Chu et al., 2010). In many studies, social support serves as a key indicator of the social ecology or the broader psychosocial context in which individuals cope with adversity. Better social support is associated with greater well-being and psychological adjustment (Chu et al., 2010). Social support research often relies on global measures of ratings of the perceptions of support that individuals perceive (e.g., Clara et al., 2003; Zimet et al., 1988). Although this has been useful for identifying the importance of social support in the social ecology, such global measures leave unanswered questions that could guide clinical practice. For example, these resources must be obtained in some way. Social support seeking is often studied separately from the amount of support available or offered, but they are logically related and understanding these interconnections is important for theory and intervention (Kim et al., 2008). The purpose of this study is to explore whether a dual-factor model of social support reveals that some patterns of seeking and receiving social support are more closely associated with other psychosocial strengths and indicators of well-being in a sample of youth from the southern United States.

Social support and the social ecology

The social ecology is comprised of families, peer networks, communities, and societies that all contribute to individual functioning (Bronfenbrenner, 1979; Kelly, 1968; Trickett et al., 1983). These elements of the social network can provide external resources to youth, for example via community resources such as clinics and support groups (Grych et al., 2015). Although the social ecology of youth has many elements, such as collective efficacy or parental involvement (Fritz et al., 2018; Sampson et al., 1997), social support is one of the most studied. Social support is often defined as the provision of tangible and intangible (i.e., psychological) resources with the goal of helping an individual, especially in times of stress (Chu et al., 2010). Most social support research has focused on people in the immediate social environment, especially family members, peers, and, in the cases of youth, caring adults such as teachers, coaches, or community group leaders (Chu et al., 2010; Turner et al., 2017; Zimet et al., 1988).

Most existing social support measures focus on assessments of these external resources, either by focusing on the number or helpfulness of individuals in one's social network, or the specific resources that an individual can access. One of the most commonly used measures is the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988), which assesses perceived social support from three key groups of people: family members, friends, and significant others. Although developed with adults, the MSPSS is commonly used with adolescents (e.g., Frison & Eggermont, 2015) and has been further adapted for youth to assess support from non-parental caring adults (Turner et al., 2017). Other widely used tools assess social support by asking respondents to identify the number of people who could provide certain types of support and their satisfaction with the support received (Sarason, et al., 1983) or by determining access to "support available if you need it" (Sherbourne & Stewart, 1991). However, from an ecological perspective, these measures of external resources only assess one side of an interpersonal transaction.

Social support seeking

Like all elements of the social ecology, social support requires an interaction between the individual and their social context (Chan et al., 2016). In the optimal scenario, someone in distress seeks assistance, and then members of their social network rally around them and provide tangible and intangible resources as needed. Seeking help after a traumatic experience — especially among friends and loved ones — is not rare (contrary to some stereotypes of passive victims) and has been reported by the majority of participants in several studies (e.g., Barrett & Pierre, 2011; Sullivan et al., 2010). Helpseeking is also common among youth (Bundock et al., 2020). The seek-and-receive model is implicit in the many prevention and intervention programs that attempt to increase helpseeking versus directly increasing social support. For example, encouraging helpseeking is the most common element in U.S. youth violence prevention programs, included in 88% of programs (Finkelhor et al., 2014). In contrast, only about 1 in 5 programs directly try to improve youth-parent communication (Finkelhor et al., 2014), which can improve helpseeking by making youth feel more comfortable disclosing to parents and parents feel better able to respond to disclosures. However, there is research documenting that this idealized pattern — individual seeks support and then support is provided — does not always occur (e.g., Foynes & Freyd, 2011).

Although many prevention and intervention programs recommend helpseeking unequivocally, and implicitly assume that all helpseeking will be met with useful responses, there is considerable evidence that is not always the case. System-induced trauma, one type of secondary trauma in which unhelpful responses from human service

professionals exacerbate a victim's problem, is unfortunately common (Conners-Burrow et al., 2013). In the sexual violence field, unhelpful and even traumatic responses from professionals are so common that the law enforcement and community responses are sometimes called "the second rape" (Campbell et al., 2001). Research on disclosures to peers and loved ones also finds many unhelpful responses, such as rejection, stigma, and victim blame (Foynes & Freyd, 2011). Much of this research has been done with adult victims, but one study of Belgian high school students found that students who sought but did not perceive social support on Facebook reported more depressed mood than other youth (Frison & Eggermont, 2015). It is also possible that the recipients of requests for help are unable to provide assistance. These deviations from the ideal pattern suggest that more attention needs to be paid to patterns of social support seeking and receiving, and to better recognize that seeking social support is not always successful.

A dual-factor model of social support

Although both social support receipt and social support seeking have been widely studied, little research has explored the interconnections of these two aspects of social support (Kim et al., 2008). Aside from the relatively small body of research on system-induced trauma, most research assumes that the two phenomena, seeking and receiving, are closely linked. In this study, we follow principles first developed for the dual-factor model for mental health. The dual-factor model of mental health has shown that two commonly studied indicators of psychological functioning, psychopathology and well-being, should not be seen as simply opposite poles of a single continuum. Rather, individuals might be high in well-being despite reporting high levels of psychological symptoms, or low in psychopathology and still low in well-being (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008). This insight has contributed to a more nuanced understanding of mental health, as it has become recognized that individuals with these mixed profiles can be distinguished from those with consistent scores on both indicators (Antaramian et al., 2010; Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008).

We propose a similar dual-factor model of social support. This model recognizes that receiving high levels of social support is often due to high levels of seeking — a pattern that reflects high levels of interconnection between a youth and their social environment. Conversely, receiving low levels of support can be due to minimal efforts to get help when needed, reflecting social isolation during times of distress. However, seeking and receiving are conceptually distinct, and therefore two mixed profiles can also occur. One mixed profile is people who seek help but do not receive it, a Rebuffed group. As noted, this group has received some study, although primarily with a focus on openly negative and harmful responses (e.g., Campbell et al., 2001; Foynes & Freyd, 2011; Frison & Eggermont, 2015). Some members of this group might receive minimal assistance or no response. Although much of the research on negative responses to helpseeking has been conducted with adults, this profile seems potentially especially problematic for youth, who will have even less capacity than most adults to access needed resources on their own. The fourth profile has received little, if any study. These are individuals who may be offered considerable social support, despite few efforts to solicit it. This profile might be especially important for youth whose caregivers may try to tend to youths' needs regardless of whether youths do a good job of expressing those needs. We refer to this subgroup as Tended.

Seen through the lens of this dual-factor model of social support, many existing measures of social support produce ambiguous scores. For example, on the MSPSS (Zimet et al., 1988), one of the most commonly used measures of social support, a low score could indicate a problem with poor responses from one's social network, but it could also indicate a problem with helpseeking. Similarly, high scores do not indicate whether the support was sought or simply offered. Other measures have similar problems, for example documenting known available resources (as in Sherbourne & Stewart, 1991) could suggest lack of knowledge, low helpseeking, a poorly resourced community, or any combination of these. Other measures, such as the Child and Adolescent Social Support Scale (Malecki & Demaray, 2002) also focus on available resources, but do not assess helpseeking and are not always clear if support is offered in request for help with a problem, or if these are just generally available relational resources. Further, some items, such as when parents "politely point out my mistakes", may not be perceived as supportive. In terms of guiding prevention and intervention, the results of research with such measures cannot indicate whether it is more important that people seek help or that they be provided with external support.

Given the relative lack of knowledge on the ways that social support seeking and receiving can interact, especially among youth, more research on the relationship between these phenomena is warranted. To help understand the ways that these four groups — Interconnected, Isolated, Rebuffed, and Tended — function in the broader social ecology and can contribute to resilience, the associations of these profiles with other protective factors and indicators of current functioning are needed. The Resilience Portfolio Model (Grych et al., 2015; Hamby, Grych et al., 2018) classifies psychosocial strengths into three domains: regulatory (managing emotions and behaviors), meaning

making (connecting with something larger than oneself), and interpersonal (relationships with the broader social ecology). The Resilience Portfolio Model also points to the need to measure a range of possible outcomes, including psychological, physical, and spiritual well-being.

Current study

The current study examined seeking and receiving social support in a sample of youth from the southern U.S. We classified youth into four groups: Interconnected (high on social support seeking and receiving), Rebuffed (high on social support seeking, low on social support receiving), Tended (low on social support seeking, high on social support receiving), and Isolated (low on social support seeking and receiving) to determine whether these groups differed on 14 psychosocial strengths and six measures of psychological, physical, and spiritual functioning, after controlling for victimization, age, and gender. We predicted that being high on both types of social support (Interconnected) would be associated with higher scores on measures of functioning and highest scores on other psychosocial strengths, consistent with prior research and the Resilience Portfolio Model, while being low on both types (Isolated) would be associated with lower scores on indicators of strengths and well-being. Given the dearth of previous research on the impact of seeking versus receiving social support, we explored the associations of the two mixed profiles (Rebuffed and Tended) with our indicators of strengths and well-being.

Method

Participants

Participants were 440 youth from four states in the southern United States (AL, GA, MS, TN). The sample ranged from 10 to 21 years of age ($M = 16.38$, $SD = 3.04$), and was 61.1% female. Regarding race and ethnic identity, participants identified as 69.9% White or European American (non-Latino), 17.1% Black or African American (non-Latino), 5.6% multiracial, 3.9% Latino, 1.9% American Indian or Alaska Native (non-Latino), and 1.6% Asian (non-Latino). More than half of the sample (61%) lived in a rural area (27.4%) or small town (33.6%), with populations under 20,000. The remaining participants reported living in larger towns (14.1% in towns 20,000-100,000), smaller cities (15% in cities up to 300,000 people), and larger cities or suburbs (9.9%). Median household income for their counties of residence (2016 data, most recent available at time of data collection) was $47,713.40 ($SD = 11,635.61$), 19% lower than the $59,039 average for the U.S.

Procedure

Participants were recruited through youth-serving organizations in 2017 and 2018. The youth-serving organizations were recruited from the surrounding community through attending meetings at local health councils (county-level organizations of area non-profits and service agencies) and word-of-mouth. If an organization was interested in participating, they contacted us via email or telephone to organize an agreed upon time and place to complete the survey, typically during one of their regularly scheduled meetings. We collected data from fourteen youth-serving organizations. In compliance with requirements of our funding agency, stipends were offered to youth-serving organizations to support their programming, not individuals. Organizations received a stipend of $20 per participant. The survey was administered as a computer-assisted self-interview, using the SNAP11 software platform on computer tablets. On average, the survey took approximately 22 minutes to complete. Informed consent, including parental consent for minors, was obtained for all participants. Inclusion criteria included being between 10 and 21 years of age, having parental consent for those under the age of 18, and ability to complete the survey in English. All procedures were IRB approved. The overall completion rate was 92%, which is an excellent result by current survey standards, with some survey completion rates often under 70% and sometimes under 50% (Abt SRBI, 2012; Galesic & Bosnjak, 2009).

Measures

Development and validation of measures. Measures were developed, refined and validated using a mixed-methods procedure (Hamby, Taylor, et al., 2018). One focus of the larger project was to develop and validate brief measures of strengths and well-being that are appropriate for use with youth. Validity was established with moderate correlations with related constructs and was consistent with previous work on resilience portfolio measures (Hamby, Grych, et al., 2018). Unless specified, response categories were on a 4-point Likert scale with 1 denoting "Not true about me" and 4 denoting "Mostly true about me." Missing data (range 1-3.2%, average 1.1%) were imputed based on responses to other items on same scale. In all cases, higher scores represent higher levels of the construct. Further details on each measure are below.

Social support was measured with 11 items based on input during the qualitative phase of this study (Hamby, Taylor, et al., 2018). We conducted an exploratory factor analysis on these 11 items, using principal axis factoring for the extraction. Two factors were extracted. The first, which we labeled Social Support Seeking, accounted for 46.7% of the variance, had an eigenvalue of 5.14, and included six items that loaded above a cut-off of .4 or higher. The second, which we labeled Social Support Received, accounted for 14.5% of the variance, had an eigenvalue of 1.59, and included the other five items. See Table 1 for individual items and item loadings. The resulting *Social Support Seeking* scale (6 items, α = .89) assesses youth's efforts to attain help and attitudes toward asking for help. The *Social Support Received* scale (5 items, α = .80) assesses help or encouragement provided by others in times of distress.

Table 1. Factor Analysis of Social Support Items

	Factor Loading		
Item	Social Support Received	Social Support Seeking	% endorsed "Mostly true"
Someone helped me get my mind off things.	.79		55.2
Someone comforted me.	.73		62.6
Someone was there for me when I was having a hard time.	.63		64.6
Someone gave me a place where I could get away for a while.	.62		42.0
Someone went with me to get some help.	.48		33.5
I feel better when I talk to people about what's going on.		.80	56.6
It helps me to discuss ideas with someone when I have a problem.		.76	56.0
I talk to someone to help me solve problems.		.75	48.8
Talking it out with someone helps me when I'm upset.		.68	57.9
Talking to someone who has been through the same thing helps me.		.65	58.3
I ask people to help me make tough decisions.		.63	46.0
Eigenvalue	5.14	1.59	
% of variance	46.69	14.45	

These scores were used to create four social support groups, using a median split for each social support scale (up to and including 50th percentile= 0, over 50th percentile = 1), that incorporate youths' individual helpseeking skills and attitudes (an asset) and the level of outside support offered (resources). The Interconnected group scored high on both seeking and receiving social support. The Tended group scored high on social support receiving, despite low scores on social support seeking. The Rebuffed group also had a mixed profile, with high social support seeking, but only low social support receiving. Finally, the Isolated group had low scores on both social support seeking and receiving. See Table 2 for a depiction of these groups and the percentages in each.

Table 2. Dual-Factor Model of Social Support with Percentage in Each Group in This Sample

	Social Support Seeking	
Social Support Received	**Low Seeking**	**High Seeking**
Low Received	Isolated 39% ($n = 172$)	Rebuffed 12% ($n = 53$)
High Received	Tended 16% ($n = 69$)	Interconnected 33% ($n = 146$)

Note. Total $n = 440$.

Regulatory strengths assess various aspects of self-control, especially when confronting difficulties. These scales were developed or adapted via the mixed-methods process described above (Hamby, Taylor, et al., 2018). The *Psychological Endurance Scale* is a simplified, 5-item version of a measure (Hamby, Grych, et al., 2018) to assess one's ability to persevere despite challenges (α = .69). A sample item is "When hard times come around, I face them head-on". *Recovering Positive Affect* is 6 items (α = .81) that assess the ability to return to a good mood after distress. A sample item is "I can cheer myself up after a bad day." *Self-reliance* measures the ability to cope by using one's own resources (3 items, α = .81). A sample item is "I like to solve problems on my own". *Impulse Control* assesses behavioral self-regulation (5 items, α = .63). A sample item is "I stop to think before I act".

Meaning making strengths assess ways that individuals seek fulfilment, often by connecting to something larger than themselves (Hamby, Taylor, et al., 2018). *Purpose* (6 items; α = .88) involves feeling like one has a sense of meaning in life and a reason for living. Adapted for youth from a previous version (Hamby, Grych, et al., 2018). A sample item is: "My values give my life meaning". *Mattering* (5 items; α = .86) measures the extent to which participants felt appreciated and valued by others. Sample item: "I feel appreciated by my family and friends". *Future Orientation* (6 items; α = .79) measures the desire for self-improvement. Sample item: "The choices I make today are important for my future". *Relational Motivation* (3 items; α = .70) refers to feeling inspired by important people in one's life. Sample item: "I want the people in my life to be proud of me". *Religious Meaning-making* (6 items; α = .94) assesses individuals' engagement in faith and religious/spiritual practices and was adapted for youth from a previous version (Hamby, Grych, et al., 2018). Sample item: "When dealing with a problem, I ask others to pray for me".

Interpersonal strengths include the participants' relational skills and also indicators of support from their larger social environment. *Compassion* (Hamby, Grych, et al., 2018) measures how people engage with others in a caring and helpful way (4 items, α = .80). A sample item is "When others feel sad, I try to comfort them". *Community Support* (Roberts et al., 2015) is six items that assess the degree to which one's neighbors get along and helps one another (α = .80). A sample item is "People in my neighborhood offer help to one another". The remaining interpersonal scales were developed via the mixed-methods process described above and were designed to capture additional aspects of youths' social ecology (Hamby, Taylor, et al., 2018). *Group Connectedness* (6 items, α = .80) assesses feelings of closeness and support from peer groups. A sample item is "I have belonged to a group or team with people who stand up for me". *School Climate* (6 items, α = .78) measures characteristics of healthy school environments, such as "My school building is in good condition". *Teacher Engagement* (5 items, α = .86) assesses youths' experiences with enthusiastic and caring teachers. A sample item is "I had a teacher who wanted me to do well in school".

Poly-victimization was assessed with the *Juvenile Victimization Questionnaire (JVQ)—Key Domains Short Form*, which includes 10 items assessing lifetime history of a range of interpersonal victimizations adapted from the full JVQ (Finkelhor et al., 2005; Hamby, Taylor, et al., 2018). A sample item is "During your childhood, did one of your parents threaten to hurt another parent and it seemed they might really get hurt?". Dichotomous items ("yes" or "no") were summed to create a total victimization score (alpha = .73). The median number of victimizations reported by youth was 3, with a mean of $M = 3.40$ ($SD = 2.43$). More than 3 out of 4 youth in this sample (75.9%) reported two or more forms of victimization, and almost 9 in 10 (89.3%) youth reported at least one victimization.

Current Functioning. Several indicators were examined to assess current functioning. In order to assess multiple aspects of well-being, measures were adopted to assess psychological, physical, and spiritual well-being and functioning. *Trauma Symptoms* (8 items, α = .91) assessed a range of feelings of dysphoria, anxiety, or guilt (Hamby, Taylor, et al., 2018). A sample item is "Feeling worried or anxious in the last month". Higher scores indicate more symptoms. *Health-related Quality of Life* (HRQOL; 5 items, α = .64) is based on the CDC measure (Centers for Disease Control and Prevention, 2000), simplified and adapted to assess physical well-being (Banyard et al., 2017). Sample item: "During the last month, for about how many days did your health stop you from doing your usual activities, like going to school or spending time with friends?". Higher scores on this index indicate better health-related quality of life in the month prior to the survey. *Subjective Well-being* (7 items, α = .90) assesses general life satisfaction from a strengths-based perspective, versus the absence of mental health symptoms (Hamby, Grych, et al., 2018). A sample item is "I feel really good about my life". Other measures of well-being were developed via the mixed methods process previously described (Hamby, Grych, et al., 2018). *Family Well-being* (7 items, α = .90) assessed the subjective well-being of one's immediate family and other relatives who live with the child. Sample item: "My family is happy". *Spiritual Well-being* included both a *Theistic* subscale (5 items, α = .95) and a *Non-theistic* subscale (5 items, α = .82). The Theistic subscale assesses well-being from a sense of god or similar higher power. A sample item is: "I feel better when I talk to god or a

higher power". The Non-theistic subscale captures a similar sense of awe or well-being from less religious sources, such as connectedness to nature. A sample item is "I feel all living things are connected".

Data analysis

To facilitate comparisons across measures, all scale scores were standardized by being converted to Z-scores (mean converted to 0 with a standard deviation of 1). Descriptive statistics were used to characterize the sample. Analyses of covariance (ANCOVAs) were used to examine differences between the four social support groups, Interconnected, Rebuffed, Tended, and Isolated, followed by post-hoc comparisons of means. Age, gender, and poly-victimization were included as covariates, and the psychosocial strengths and indicators of current functioning were the dependent variables.

Results

Social support experiences

Many forms of social support were reported by substantial proportions of youth in this sample. The most highly endorsed item of the 11 items was "Someone was there for me when I was having a hard time", with 64% of the sample saying that was "mostly true" about them. The least endorsed item was also on the Social Support Received scale: "Someone went with me to get some help", which only 33.5% said was "mostly true." On the Social Support Seeking scale, the most highly endorsed item was "Talking to someone who has been through the same thing helps me", with 58% saying that was "mostly true." Other forms of social support seeking were less common, with fewer than half of youth saying that it was "mostly true" that they "ask people to help me make tough decisions" (46%) and "talk to someone to help me solve problems" (49%).

Four social support groups and other strengths

ANCOVAs revealed numerous significant differences in psychosocial strengths among the four social support groups, after controlling for age, gender, and poly-victimization.

Regulatory strengths. We first examined differences in individual regulatory strengths across the four social support groups: Interconnected, Rebuffed, Tended, and Isolated. There were significant differences for all four regulatory strengths, $p < .01$. See Table 3. For endurance and recovering positive affect, youth in the Interconnected and Rebuffed groups, which were similar to each other, had higher scores than youth in the Isolated and Tended groups. The Isolated and Tended groups were not significantly different from each other. For self-reliance, the pattern was similar, but the Rebuffed group was not different than any other. For impulse control, only the Interconnected group reported significantly higher impulse control than other groups. The pattern of scores was similar for all four variables, with the Isolated group showing the lowest score on all four strengths, and the Tended group the second lowest. The Interconnected group had the highest scores, except for Endurance, for which the Rebuffed group was slightly (but not significantly) higher. For all paired comparisons, $p < .05$.

The covariates were significant in some of these analyses. For age, older youth reported higher levels of endurance, $p < .05$, and impulse control, $p < .01$. For gender, male youth reported higher levels of endurance, $p < .05$, and recovering positive affect, $p = .001$. Regarding poly-victimization, lower levels of victimization were associated with better impulse control, $p < .001$, and recovering positive affect, $p < .001$.

Meaning making strengths. For meaning making strengths, there were significant differences across social support groups for all five meaning making strengths, $p < .001$. Also see Table 3. Comparisons of the means indicated that the Isolated group was significantly lower than the three other groups for every strength except for future orientation, which showed the same pattern found for endurance and recovering positive affect, with both the Isolated and Tended groups scoring significantly lower than the Interconnected and Rebuffed groups. For a sense of purpose and religious meaning making, Interconnected youth who both sought and received help reported significantly more meaning than other youth. However, for mattering and relational motivation, while Isolated youth reported the lowest scores, the other three groups were not significantly different from each other. All pairwise comparisons were significant, $p < .05$.

For the covariates, age was significant for future orientation, $p < .05$, and religious meaning making, $p < .01$, with participants reporting more future orientation and less religious meaning making as they age. Lower levels of

poly-victimization were significantly associated with higher levels of mattering, $p < .001$, purpose, $p < .001$, and relational motivation, $p = .01$.

Table 3. Means and Standard Errors for Psychosocial Strengths and Well-being as a Function of Social Support Group

	Isolated	Tended	Rebuffed	Interconnected		
	M (*SE*)	*M* (*SE*)	*M* (*SE*)	*M* (*SE*)	*F*	η2
Regulatory Strengths						
Recovering Positive Affect	-.29 (.07) $_a$	-.19 (.11) $_a$	.14 (.13) $_b$	.38 (.08) $_b$	13.90 ***	.09
Endurance	-.28 (.08) $_a$	-.05 (.12) $_a$	.32 (.13) $_b$	.26 (.08) $_b$	9.74 ***	.06
Impulse Control	-.22 (.07) $_a$	-.02 (.11) $_a$	.07 (.13) $_a$	.26 (.08) $_b$	6.38 ***	.04
Self-reliance	-.20 (.08) $_a$	-.07 (.12) $_a$	.03 (.14) $_{a,b}$	.24 (.08) $_b$	5.14 **	.04
Meaning Making Strengths						
Mattering	-.45 (.07) $_a$	.17 (.10) $_b$	.17 (.12) $_b$	.39 (.07) $_b$	26.04 ***	.16
Purpose	-.42 (.07) $_a$	-.03 (.11) $_b$	.15 (.13) $_b$	.45 (.08) $_c$	23.47 ***	.14
Religious Meaning Making	-.33 (.07) $_a$	.04 (.12) $_b$	.00 (.13) $_b$	.37 (.08) $_c$	13.72 ***	.09
Future Orientation	-.31 (.07) $_a$	-.10 (.11) $_a$	.26 (.13) $_b$	.34 (.08) $_b$	13.37 ***	.09
Relational Motivation	-.34 (.07) $_a$	.04 (.12) $_b$	.20 (.13) $_b$	.31 (.08) $_b$	12.46 ***	.08
Interpersonal Strengths						
Teacher Engagement	-.43 (.07) $_a$	.19 (.11) $_b$	.14 (.13) $_b$	.35 (.08) $_b$	18.77 ***	.12
Compassion	-.36 (.07) $_a$	-.02 (.11) $_b$	.23 (.13) $_{b,c}$	.35 (.08) $_c$	15.81 ***	.10
School Climate	-.33 (.07) $_a$	.08 (.11) $_b$	.04 (.13) $_b$	.37 (.08) $_c$	14.88 ***	.10
Community Support	-.34 (.07) $_a$	.01 (.11) $_b$	.12 (.13) $_{b,c}$	.35 (.08) $_c$	13.52 ***	.09
Group Connectedness	-.30 (.08) $_a$	-.03 (.12) $_b$	.24 (.13) $_{b,c}$	.29 (.08) $_c$	10.57 ***	.07
Well-being Indicators						
Subjective Well-being	-.47 (.07) $_a$	.19 (.11) $_b$	.01 (.12) $_b$	.45 (.07) $_c$	28.22 ***	.17
Spiritual Well-being Non-theistic	-.42 (.07) $_a$	-.15 (.11) $_b$	.19 (.13) $_c$	.49 (.08) $_d$	24.87 ***	.15
Spiritual Well-being Theistic	-.41 (.07) $_a$	.11 (.11) $_b$	.04 (.13) $_b$	.40 (.08) $_c$	18.84 ***	.12
Family Well-being	-.29 (.07) $_a$	.08 (.11) $_{b,c}$	-.03 (.12) $_{a,b}$	.31 (.08) $_c$	11.77 ***	.08
Physical Well-being	-.21 (.07) $_a$	.11 (.11) $_b$	.03 (.13) $_{a,b}$	.17 (.08) $_b$	4.55 **	.03
Trauma Symptoms	-.06 (.07) $_a$	.10 (.11) $_a$	-.10 (.13) $_a$	.04 (.08) $_a$	.78	.01

Note. ***$p < .001$; **$p < .01$. Means with different subscripts are significantly different from each other, $p < .05$. All means have been converted to z-scores (mean = 0; *SD* = 1), with higher scores indicating higher levels of each strength. Means and standard errors are adjusted for age, gender, and victimization history.

Interpersonal strengths. Each of the interpersonal strengths showed a similar pattern to regulatory and meaning making strengths, with the Isolated group reporting the lowest level of interpersonal strengths, the Interconnected group the highest, and the Rebuffed and Tended groups in the middle, with the Rebuffed group looking more similar to the Interconnected group than the Tended group. All five ANCOVAs for interpersonal strengths were significant, $p < .001$. See Table 3. For community support, compassion, and group connectedness, the Rebuffed group was statistically similar to the Interconnected group, while the Tended group was significantly lower (for pairwise comparisons, $p < .05$). This may suggest that youth who are not receiving social support may be seeking group connections or developing compassion for others to make up for that. For teacher engagement, the Isolated group was significantly lower than the other three, which were statistically similar to each other.

Age was a significant covariate for compassion, $p = .01$, and school climate, $p = .001$, with older participants reporting more compassion and greater school climate than younger participants. Gender was a significant covariate for compassion, $p < .001$, with females reporting higher compassion than males. Poly-victimization was also a significant covariate for community support, $p = .01$, and school climate, $p < .001$, with participants reporting higher scores when victimization was lower than when it was higher.

Four social support groups and current functioning

The social support groups varied on five out of six indicators of well-being, $p < .01$, except for trauma symptoms, which was not significant. Although the Rebuffed group, overall, reported doing better than the Tended group on all three domains of psychosocial strengths (regulatory, meaning making, and interpersonal), this pattern was not observed in well-being measures except for non-theistic spiritual well-being. Although both mixed groups again fell between the Isolated and Interconnected groups on all measures of functioning, for the most part scores were slightly (nonsignificantly) higher for the Tended group than the Rebuffed group. Somewhat surprisingly, there were no significant differences for trauma symptoms. Non-theistic spiritual well-being was the only variable for which all four groups were significantly different from each other. See Table 3.

Age was a significant covariate for trauma symptoms, $p < .05$, and spiritual well-being theistic, $p < .01$, with older participants reporting more trauma symptoms and less theistic well-being than younger participants. Gender was a significant covariate of physical well-being, $p < .05$, and trauma symptoms, $p < .05$, with males reporting better physical well-being than females and females reporting more trauma symptoms than males.

Poly-victimization was a significant covariate for subjective well-being, family well-being, and physical well-being (all at $p < .001$), with participants reporting higher well-being scores when poly-victimization was low than when reported victimization was high. Poly-victimization also showed a positive association with trauma symptoms ($p = .05$) and non-theistic spiritual well-being ($p < .05$).

Discussion

As far as we are aware, this study is the first to explore the impact of both seeking and receiving social support for youth, using a dual-factor approach. We examined four groups: Interconnected youth, who scored high on social support seeking and receiving; Isolated youth, who reported low on social support seeking and receiving; a Rebuffed group that reported high social support seeking but low receiving; and a Tended group that scored high on social support receiving despite low scores on social support seeking. This latter group, particularly relevant for youth who may have caregivers, teachers or other adults who are attempting to look out for them even if they do not easily express their needs, has received little prior research attention. Prior work on the dual-factor model of mental health revealed nuances not apparent by examining only psychopathology or well-being as separate constructs (Antaramian et al., 2010; Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008). Similarly, this dual-factor approach to social support can integrate findings from previously siloed bodies of work on social support and helpseeking, and provide insights that can better guide future research, prevention, and intervention.

Largely as predicted and consistent with the Resilience Portfolio Model and prior research (Chu et al., 2010; Grych et al., 2015), the Interconnected youth scored significantly higher than the Isolated group on every psychosocial strength and every indicator of current functioning except for trauma symptoms. The average difference between these two groups was .65 standard deviations (using z-scores). There was some variability in the patterns of significance in these groups compared to the two mixed profiles, but the Rebuffed and Tended groups generally fell between these two and were significantly different from both the Interconnected and Isolated groups on numerous variables, including purpose, religious meaning making, school climate, subjective well-being, family well-being, and theistic and non-theistic spiritual well-being.

Notably, the Rebuffed group reported higher levels of some psychosocial strengths than the Tended group, including recovering positive affect, endurance, and future orientation. The Rebuffed group also reported higher non-theistic spiritual well-being than the Tended group. The Tended group was never significantly higher than the Rebuffed group. Overall, the Rebuffed group was similar to the Interconnected group on most psychosocial strengths (statistically indistinguishable on 10 of 14). On average, the Rebuffed group was .19 standard deviations below the Interconnected group. In contrast, the Tended group was often lower than the Interconnected group (significantly lower on 11 of 14 strengths), averaging scores that were .34 standard deviations below the Interconnected group. However, although the differences did not achieve statistical significance, this pattern varied for most well-being variables (all except non-theistic spiritual well-being), with the Tended group reporting slightly but not statistically higher well-being than the Rebuffed group. Both the Tended and Rebuffed groups were significantly lower than the Interconnected group for three of the well-being variables: subjective well-being and both forms of spiritual well-being.

The Resilience Portfolio Model acknowledges that although denser and more diverse portfolios of strengths are good, not everyone has every asset or resource. Regarding the question of whether seeking or receiving support is better, these results suggest that individual skills and attitudes may be more helpful to youth than external offers of support. There is an old adage in psychotherapy that says, "Never work harder than your client", and it is possible that offering social support when a youth has not sought help or may even resist acknowledging the need for help is counterproductive. This may be a particularly salient issue for youth who have less control over when and how they seek psychotherapy and other health care services. This remains an understudied phenomenon that needs more attention.

Another possibility is that Rebuffed youth are steeling themselves, that is trying to strengthen themselves or reduce their vulnerabilities (Rutter, 2012), in response to an environment that offers little support, whether due to lack of resources or due to neglectfulness or hostility. This is reflected in the nature of the strengths that most distinguished the Rebuffed and Tended groups. Higher future orientation may be due to motivation to escape a dysfunctional environment, and higher endurance could indicate youth toughening themselves to survive harsh circumstances. The steeling hypothesis is also supported by the somewhat different pattern observed in the well-being measures, which showed relatively little benefit to Rebuffed youth for their higher scores on numerous strengths, because their current well-being was more similar to the Tended group than the Interconnected group.

These results are largely consistent with other literature finding a positive association between social support and current functioning among youth (Chu et al., 2010). As has been noted (Chu et al., 2010), past research on social support, although consistent with an overall positive effect, has also been more mixed than many anticipated and the findings here suggest one explanation for that. Although prior research has studied different types of social support (degree of support from different sources and access to different types of resources), few have studied patterns of seeking and receiving, and we are aware of no other studies that have examined an equivalent to the Tended group in this study. Although prior research has studied the association between social support and other indicators of the social ecology (Turner et al., 2017), the results of this study suggest that links between social support and other strengths is not limited to environmental indicators such as school climate or community support, but extends to other domains of strengths. Results for the covariates were largely in line with prior research, with many factors improving with age (with the exception that religious ones generally decline during this developmental period), and more scattered results for gender differences (Hagler et al., 2016; Hamby et al., 2017). The finding that poly-victimization is inversely associated with many strengths and indicators of current functioning is consistent with prior research (e.g., Hamby, Grych, et al., 2018; Turner et al., 2017).

One question raised by these data is the extent to which a proclivity towards seeking social support should be conceived of as an individual strength versus an exclusively relational phenomenon. Many measures and models of social support focus on external resources, such as the size of social networks, the range of accessible resources, the amount of support provided, or satisfaction with provided support (Barrera, 1986; Sarason et al., 1983; Sherbourne & Stewart, 1991; Zimet et al., 1988), and do not emphasize what individuals do to foster social relationships or solicit assistance. It appears from these data that both are needed for optimum benefit, and that individual actions and attitudes may be more important to youth functioning than what is provided from the outside.

Strengths and limitations

The results of this study should be evaluated in consideration of the strengths and limitations of the project. This project expands research on social support by separating social support seeking from receiving and including a focus on youth who may receive high levels of support from others despite low levels of seeking. The project also expands the number of other characteristics and indicators of well-being that have been studied in relation to social support. Further, the study expands information on social support in predominantly low-income communities in the southern U.S. Nonetheless, it would be valuable to replicate these findings in other groups and in other regions of the country and the world. This was a cross-sectional study, which is an appropriate and cost-effective means of exploring new ideas, but the results would benefit from replication in a longitudinal study.

Research implications

This dual-factor model of social support is a promising approach for expanding our understanding about how to help youth who have experienced adversity. Future research can do more to explore why differences were found for some forms of well-being, such as subjective well-being and spiritual well-being, but not physical well-being or trauma symptoms. It would also be worth exploring in future studies with larger or more diverse samples whether the dual-factor model varies across age, racial and ethnic identity, gender, sexual orientation, or other characteristics. Future research could incorporate multiple informants or other data sources and adopt different sampling frames. It would also be useful to explore how the dual-factor model of social support might vary for formal versus informal helpseeking. Future research needs to do more than just examine different indicators of social support or the social ecology and study the ways that these various factors can combine to influence youths' well-being and resilience.

Implications for intervention and prevention

Parents, teachers, therapists, and others who work with adolescents who, for whatever reason, may be unable or unwilling to express their needs and seek support, may wonder whether it is better to guess those needs and try to meet them, or better to encourage youth to reach out and talk about their needs with others. The current study finds that strong social support seeking skills and attitudes are positively related to indicators of psychosocial strengths and current functioning, suggesting perhaps the latter strategy may yield longer-term benefits. The results of this study suggest that it is more important to encourage helpseeking and positive attitudes towards sharing, disclosure, and getting advice, than to just provide support to youth whether they want it or not. Of course, there are legal obligations to assist youth in some circumstances. Techniques such as motivational interviewing (Arkowitz et al., 2015), which emphasizes engaging clients, may be one evidence-based approach for working with youth who may need help (from an adult perspective) but have not sought it.

These data also indicate that both seeking and receiving social support are needed for the highest levels of functioning on a wide range of measures. Providers and communities need to ensure that when youth do seek social support, that they receive it, especially when families and peers may be unresponsive. Multidisciplinary approaches, such as children's advocacy centres, are one approach that is designed to improve the quality of response to victimization, but more research is needed on the elements that most improve the social ecology of youth (Elmquist et al., 2015). A healthy social ecology means optimal functioning of individuals, families, and communities.

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Conflict of interest

The authors have no conflict of interest to disclose.

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International Journal of Child and Adolescent Resilience
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Est-ce mieux de rechercher ou de recevoir ? Un modèle de soutien social à double facteur

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Résumé

Objectifs : Cette étude utilise une approche à double facteur pour examiner l'association entre la recherche de soutien social et le soutien reçu avec six indicateurs de fonctionnement global et 14 indicateurs de forces psychosociales.

Méthodologie : Un questionnaire mesurant les forces, le fonctionnement et la victimisation a été rempli par 440 participants âgés de 10 à 21 ans (*M* = 16,38, *ET* = 3,04). Les participants ont été classés en quatre groupes : *Interconnecté* (scores élevés de recherche et de soutien social reçu; 33 % de l'échantillon), *Repoussé* (scores élevés de recherche et scores bas de soutien social reçu; 12 %), *Pris en charge* (scores élevés de soutien social reçu, scores bas de recherche) et *Isolé* (scores bas de recherche et de soutien social reçu; 39 %).

Résultats : En contrôlant pour l'âge, le sexe et la victimisation, le groupe de soutien social était associé aux capacités de création de sens, aux forces interpersonnelles et d'autorégulation, ainsi qu'avec chacun des indicateurs de fonctionnement, sauf les symptômes de trauma. Le groupe *Isolé* a obtenu des scores plus bas sur chacune des échelles de mesure et le groupe *Interconnecté* a obtenu les plus hauts scores sur 19 des 20 échelles. Les profils mixtes ont obtenu des scores entre ces deux extrêmes. Notamment, le groupe *Repoussé* a rapporté des scores plus élevés pour plusieurs forces ainsi que le bien-être spirituel non-théiste que le groupe *Pris en charge*. Les scores du groupe *Pris en charge* n'étaient jamais significativement plus élevés que ceux du groupe *Repoussé*.

Implications : Les compétences individuelles et les attitudes favorables à la recherche d'aide pourraient avoir plus d'impact que le soutien social fourni par les autres. Les participants du groupe *Repoussé* pourraient exploiter d'autres forces quand l'environnement social est non favorable.

Mots-clés : Soutien social, résilience, écologie sociale, jeunes, recherche de soutien social, soutien social reçu.

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Introduction

Le soutien social serait un facteur de protection important dans les études portant sur la victimisation, la résilience et plusieurs autres phénomènes similaires à l'enfance et l'adolescence (Chu et al., 2010). Dans plusieurs études, le soutien social serait un indicateur clé de l'écologie sociale ou du contexte psychosocial plus général dans lequel les individus s'adaptent à l'adversité. Un meilleur soutien social serait associé à un plus grand bien-être et à un plus grand ajustement psychosocial (Chu et al., 2010). Les recherches sur le soutien social s'appuient généralement sur des mesures de cotation globale du soutien social perçu des individus (p. ex., Clara et al., 2003; Zimet et al., 1988). Bien que ces recherches aient été utiles pour identifier l'importance du soutien social dans l'écologie sociale, des mesures aussi globales laissent sans réponse des questions qui auraient pu guider les interventions cliniques. Par exemple, ces ressources doivent être obtenues d'une certaine façon. La recherche de soutien social est souvent étudiée séparément de la quantité de soutien social disponible ou offerte, mais elles sont logiquement reliées et comprendre ces connexions est important théoriquement et pour les interventions (Kim et al., 2008). L'objectif de cette étude est d'explorer si le modèle de soutien social à double facteur révèle des schémas où la recherche et la réception de soutien social sont étroitement associées avec des forces psychosociales et des indicateurs de bien-être au sein d'un échantillon de jeunes provenant du sud des États-Unis.

Soutien social et écologie sociale

L'écologie sociale comprend les familles, les réseaux de pairs, les communautés et les sociétés qui contribuent au fonctionnement d'un individu (Bronfenbrenner, 1979; Kelly, 1968; Trickett et al., 1983). Ces éléments du réseau social peuvent apporter des ressources extérieures aux jeunes, par exemple par le biais de ressources communautaires comme des cliniques et des groupes de soutien social (Grych et al., 2015). Bien que l'écologie sociale des jeunes contienne plusieurs éléments, comme l'efficacité collective ou l'implication parentale (Fritz, de Graaff, Caisley, Van Harmelen & Wilkinson, 2018; Sampson, Raudenbush & Earls, 1997), le soutien social est l'un des facteurs les plus étudiés. Le soutien social est souvent défini comme étant la mise à disposition de ressources matérielles et immatérielles (c.-à-d., psychologiques) dans le but d'aider une personne, surtout en période de stress (Chu et al., 2010). La plupart des études sur le soutien social se sont concentrées sur les personnes de l'environnement social immédiat, en particulier les membres de la famille, les pairs et, dans le cas des jeunes, les adultes significatifs tels que les enseignants, les entraîneurs ou les dirigeants de groupes communautaires (Chu et al., 2010; Turner et al., 2017; Zimet et al., 1988).

La plupart des mesures de soutien social existantes sont axées sur l'évaluation de ces ressources externes, en se concentrant soit sur le nombre de personnes présentes dans le réseau social d'un individu ou l'aide qu'elles peuvent apporter, soit sur les ressources spécifiques auxquelles une personne peut accéder. Une des mesures les plus utilisées est le *Multidimensional Scale of Perceived Social Support* (MSPSS; Zimet et al., 1988) qui évalue le soutien social perçu provenant de trois groupes de personnes clés : les membres de la famille, les amis et les autres personnes importantes. Bien que cet instrument de mesure ait été développé auprès d'adultes, l'échelle MSPSS est souvent utilisée avec des adolescents (p. ex., Frison & Eggermont, 2015) et a aussi été adaptée à l'évaluation du soutien provenant des figures non-parentales significatives des jeunes (Turner et al., 2017). D'autres outils populaires permettent d'évaluer le soutien social en demandant aux répondants d'indiquer le nombre de personnes qui pourraient fournir certains types de soutien ainsi que leur satisfaction à l'égard du soutien reçu (Sarason et al., 1983) ou en déterminant l'accès au « soutien disponible en cas de besoin » (Sherbourne & Stewart, 1991). Toutefois, d'un point de vue écologique, ces mesures des ressources externes n'évaluent qu'un côté de la transaction interpersonnelle.

La recherche de soutien social

Comme tous les éléments de l'écologie sociale, le soutien social se base sur une interaction entre l'individu et son contexte social (Chan et al., 2016). Dans un scénario optimal, une personne en détresse demande de l'aide, puis les membres de son réseau social se rallient autour d'elle et lui fournissent les ressources matérielles et immatérielles demandées. Demander de l'aide aux amis et aux proches après une expérience traumatisante n'est pas rare (contrairement à ce qui est véhiculé par certains stéréotypes sur les victimes passives), comme rapporté par la majorité des participants de différentes études (p. ex., Barrett & Pierre, 2011; Sullivan et al., 2010). La recherche d'aide est aussi fréquente chez les jeunes (Bundock et al., 2020). Le modèle rechercher-et-recevoir est implicite dans de nombreux programmes de prévention et d'intervention qui tentent d'accroître la recherche d'aide par opposition à l'augmentation directe du soutien social. Par exemple, l'encouragement à la recherche d'aide est l'élément le plus courant dans les programmes de prévention de la violence chez les jeunes aux États-Unis, et est inclus dans 88 % des programmes (Finkelhor et al., 2014). En revanche, seulement un programme sur cinq essaie directement d'améliorer la

communication entre les jeunes et les parents (Finkelhor et al., 2014), ce qui peut améliorer la recherche d'aide en aidant les jeunes à se sentir plus à l'aise de se confier à leurs parents et ces derniers à se sentir davantage en mesure de réagir à ces dévoilements. Cependant, certaines recherches montrent que ce modèle idéalisé – où l'individu recherche un soutien qui lui est ensuite fourni - ne se produit pas toujours (p. ex., Foynes & Freyd, 2011).

Bien que de nombreux programmes de prévention et d'intervention recommandent sans équivoque la recherche d'aide et supposent implicitement que toute recherche d'aide sera satisfaite par des réponses utiles, il existe des preuves considérables que ce n'est pas toujours le cas. Le « trauma induit par le système », soit un type de trauma secondaire dans lequel les réponses peu utiles des professionnels des services sociaux exacerbent le problème d'une victime, est malheureusement courant (Conners-Burrow et al., 2013). Dans le domaine de la violence sexuelle, les réponses peu utiles, voire même traumatisantes, des professionnels sont si courantes que les réponses des forces de l'ordre et de la communauté sont parfois appelées « le second viol » (Campbell et al., 2001). La recherche sur les dévoilements aux pairs et aux proches révèle également l'occurrence de nombreuses réponses peu aidantes, comme le rejet, la stigmatisation et le blâme des victimes (Foynes & Freyd, 2011). Une grande partie de ces recherches a été effectuée auprès de victimes adultes, mais une étude menée dans une école secondaire belge a révélé que les élèves qui recherchaient du soutien social sur Facebook et qui n'en percevaient pas déclaraient être d'humeur plus dépressive que les autres jeunes (Frison & Eggermont, 2015). Il est aussi possible que les bénéficiaires des demandes d'aide ne soient pas en mesure de fournir l'aide demandée. Ces écarts par rapport au modèle idéal suggèrent qu'il faut accorder plus d'attention aux modèles de recherche et de réception de soutien social, et mieux reconnaître que la recherche de soutien social ne réussit pas toujours.

Un modèle de soutien social à double facteur

Bien que la réception et la recherche de soutien social aient été largement étudiées, peu de recherches ont exploré les interconnexions de ces deux aspects du soutien social (Kim et al., 2008). Mis à part le nombre relativement restreint de recherches sur les traumatismes induits par le système, la plupart des recherches supposent que les deux phénomènes, la recherche et la réception, sont étroitement liés. Dans la présente étude, nous suivons les principes d'abord élaborés pour le modèle à double facteur de la santé mentale. Le modèle à double facteur de la santé mentale a montré que deux indicateurs du fonctionnement psychologique couramment étudiés, la psychopathologie et le bien-être, ne devraient pas être considérés comme de simples pôles opposés d'un même continuum. Au contraire, les individus peuvent avoir un niveau de bien-être élevé malgré des niveaux importants de symptômes psychologiques, ou avoir peu de symptômes psychopathologiques et quand même avoir un niveau bas de bien-être (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008). Ces résultats ont contribué à une compréhension plus nuancée de la santé mentale, car il est maintenant reconnu que les personnes correspondant à ces profils mixtes peuvent être distinguées de celles ayant des scores uniformes pour les deux indicateurs (Antaramian et al., 2010; Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008).

Nous proposons un modèle similaire de soutien social à double facteur. Ce modèle reconnaît que le fait de recevoir un niveau élevé de soutien social est souvent dû à un niveau élevé de recherche de soutien, c'est-à-dire un modèle qui reflète des niveaux élevés d'interconnexion entre un jeune et son environnement social. Inversement, le fait de recevoir un faible niveau de soutien peut être dû à des efforts minimes pour obtenir de l'aide en cas de besoin, ce qui reflète l'isolement social en période de détresse. Cependant, rechercher et recevoir sont deux actions conceptuellement distinctes et, par conséquent, deux profils mixtes peuvent également émerger. Un profil mixte peut être constitué de personnes qui recherchent du soutien social, mais qui n'en reçoivent pas : le groupe *Repoussé*. Comme mentionné, ce groupe a fait l'objet de certaines études, bien qu'elles portent principalement sur les réponses ouvertement négatives et nuisibles (e.g., Campbell et al., 2001; Foynes & Freyd, 2011; Frison & Eggermont, 2015). Certains membres de ce groupe peuvent recevoir une aide minimale ou ne pas recevoir de réponse du tout. Bien qu'une grande partie de la recherche sur les réponses négatives à la recherche d'aide ait été menée auprès d'adultes, ce profil semble potentiellement problématique pour les jeunes, qui auront encore moins de capacité que la plupart des adultes à accéder aux ressources nécessaires par eux-mêmes. Le quatrième profil n'a fait l'objet de peu, voire aucune étude. Il s'agit de personnes pour lesquelles un soutien social considérable est offert, malgré le peu d'efforts déployés pour le solliciter. Ce profil pourrait être particulièrement important pour les jeunes dont les personnes qui prennent soin d'eux essaient de répondre à leurs besoins, peu importe s'il est exprimé de façon efficace ou non. Nous appelons ce sous-groupe *Pris en charge*.

Examinées à travers le modèle de soutien social à double facteur, de nombreuses mesures existantes de soutien social produisent des scores ambigus. Par exemple, dans le MSPSS (Zimet et al., 1988), l'une des mesures de

soutien social les plus couramment utilisées, un score faible pourrait indiquer un problème de réponses inefficaces de la part du réseau social, mais il pourrait aussi indiquer un problème dans la recherche d'aide. Aussi, un score élevé sur l'échelle n'indique pas si le soutien a été sollicité ou simplement offert. D'autres mesures présentent des problèmes similaires, par exemple la documentation des ressources connues et disponibles (comme dans Sherbourne & Stewart, 1991) pourrait suggérer un manque de connaissances, une faible recherche d'aide, une communauté offrant peu de ressources ou la combinaison de plusieurs de ces facteurs. D'autres mesures, comme le *Child and Adolescent Social Support Scale* (Malecki & Demaray, 2002), se concentrent aussi sur les ressources disponibles, mais n'évaluent pas nécessairement la recherche d'aide et n'indiquent pas clairement si le soutien est offert suite à une demande d'aide ou si ce sont simplement des ressources relationnelles généralement disponibles. De plus, certains éléments, comme lorsque les parents « soulignent poliment mes erreurs », peuvent ne pas être perçus comme du soutien. Pour ce qui est d'orienter la prévention et l'intervention, les résultats des recherches ne peuvent pas indiquer, avec de telles mesures, s'il est plus important que les gens demandent de l'aide ou qu'ils reçoivent un soutien externe.

Étant donné le manque relatif de connaissances sur les façons dont le soutien social recherché et reçu peuvent interagir, il est nécessaire d'approfondir les recherches sur la relation entre ces phénomènes, et ce, surtout chez les jeunes. Pour aider à comprendre les façons dont ces quatre groupes - *Interconnecté, Isolé, Repoussé et Pris en charge* - fonctionnent dans l'écologie sociale plus générale et comment ils peuvent contribuer à la résilience, il est nécessaire d'associer ces profils à d'autres facteurs de protection et à d'autres indicateurs du fonctionnement. Le *Resilience Portfolio Model* (Grych et al., 2015; Hamby, Grych et al., 2018) classe les forces psychosociales en trois domaines : la régulation (gestion des émotions et des comportements), la création de sens (connexion avec quelque chose de plus grand que soi) et les relations interpersonnelles (relations avec l'écologie sociale plus large). Le *Resilience Portfolio Model* souligne également la nécessité de mesurer une gamme de conséquences possibles, y compris le bien-être psychologique, physique et spirituel.

La présente étude

La présente étude a examiné la recherche et la réception de soutien social dans un échantillon de jeunes provenant du sud des États-Unis. Ces jeunes ont été classés en quatre groupes : *Interconnecté* (recherche et obtention de soutien social élevé), *Repoussé* (recherche élevée, obtention faible), *Pris en charge* (recherche faible, obtention élevée) et *Isolé* (recherche et obtention faible) afin de déterminer si ces groupes se distinguent sur le plan de 14 forces psychosociales et 6 mesures de fonctionnement psychologique, physique et spirituel après avoir contrôlé pour la victimisation, l'âge et le sexe. Nous avons prédit que le fait d'avoir des scores élevés aux deux types de soutien social *(Interconnecté)* serait associé à des scores plus élevés sur les échelles de fonctionnement et de forces psychosociales, conformément aux recherches antérieures et au *Resilience Portfolio Model*, alors qu'obtenir des scores bas aux deux types de soutien *(Isolé)* serait associé à des scores plus faibles aux indicateurs de forces et de bien-être. Étant donné la rareté des recherches disponibles sur l'impact de la recherche versus l'obtention de soutien social, nous avons exploré les associations des deux profils mixtes *(Repoussé* et *Pris en charge)* à l'aide de nos indicateurs de forces et de bien-être.

Méthodologie

Participants

L'échantillon est composé de 440 jeunes provenant de quatre États du sud des États-Unis (AL, GA, MS, TN). Les participants étaient âgés de 10 à 21 ans (M = 16,38, ET = 3,04), dont 61,1 % étaient des filles. En ce qui concerne la race et l'identité ethnique, les participants se sont identifiés comme étant 69,9 % blancs ou Européens américains (non-latinos), 17,1 % noirs ou afro-américains (non-latinos), 5,6 % multiraciaux, 3,9 % latinos, 1,9 % Amérindiens ou Autochtones de l'Alaska (non-latinos) et 1,6 % asiatiques (non-latinos). Plus de la moitié de l'échantillon (61 %) vivait dans une région rurale (27,4 %) ou une petite ville (33,6 %), avec une population de moins de 20 000 habitants. Les autres participants ont déclaré vivre dans des villes (14,1 % dans des villes de 20 000 à 100 000 habitants), des grandes villes (15 % dans des villes de moins de 300 000 habitants) et dans des métropoles ou des banlieues (9,9 %). Le revenu médian du ménage dans leur comté de résidence (données de 2016, les plus récentes disponibles au moment de la collecte des données) était de 47 713,40 $ (ET = 11 635,61), soit 19 % de moins que la moyenne de 59 039 $ pour les États-Unis.

Procédure

Les participants ont été recrutés dans des organismes jeunesse en 2017 et 2018. Les organismes jeunesse ont été recrutées dans la communauté environnante en assistant à des réunions de conseils de santé locaux (organisations de comté des organismes sans but lucratif et de services de la région) et par le bouche-à-oreille. Si un organisme souhaitait participer, il nous contactait par courriel ou par téléphone pour convenir d'une heure et d'un lieu pour répondre au sondage, généralement lors d'une de ses réunions régulières. Nous avons recueilli des données auprès de quatorze organismes jeunesse. Conformément aux exigences de notre organisme de financement, des allocations ont été offertes aux organismes jeunesse, et non aux particuliers, afin de soutenir leurs programmes. Les organismes ont reçu une allocation de 20 $ par participant. Le sondage a été répondu sous forme d'entrevue assistée par ordinateur, à l'aide de la plate-forme logicielle SNAP11 sur des tablettes électroniques. En moyenne, il a fallu environ 22 minutes pour répondre au sondage. Le consentement éclairé, y compris le consentement parental pour les mineurs, a été obtenu pour tous les participants. Les critères d'inclusion comprenaient le fait d'être âgé de 10 à 21 ans, d'avoir obtenu le consentement parental pour les moins de 18 ans et de pouvoir répondre au sondage en anglais. Toutes les procédures ont été approuvées par le comité institutionnel d'éthique de la recherche. Le taux de complétion global était de 92 %, ce qui est un excellent résultat selon les normes d'enquête actuelles, certains taux de complétion étant souvent inférieurs à 70 % et parfois à 50 % (Abt SRBI, 2012; Galesic & Bosnjak, 2009).

Mesures

Développement et validation des mesures. Les mesures ont été conceptualisées, perfectionnées et validées en utilisant une procédure à méthodes mixtes (Hamby, Taylor, et al., 2018). L'un des objectifs de ce projet de plus grande envergure était d'élaborer et de valider de brèves mesures des forces et du bien-être pouvant être utilisées auprès des jeunes. La validité des instruments a été établie à l'aide de corrélations modérées avec des construits connexes et était conforme aux travaux antérieurs sur les mesures du *Resilience Portfolio* (Hamby, Grych, et al., 2018). Sauf indication contraire, les catégories de réponse correspondaient une échelle de Likert en 4 points, 1 signifiant « Pas vrai pour moi » et 4 signifiant « En grande partie vrai pour moi ». Les données manquantes (intervalle de 1 à 3,2 %, moyenne de 1,1 %) ont été imputées en fonction des réponses à d'autres items de la même échelle. Dans tous les cas, les scores élevés représentent des niveaux plus élevés du construit. De plus amples détails sur chaque mesure sont présentés ci-dessous.

Le soutien social a été mesuré à l'aide de 11 items fondés sur les données recueillies pendant la phase qualitative de cette étude (Hamby, Taylor, et al., 2018). Nous avons effectué une analyse factorielle exploratoire sur ces 11 items, en utilisant la factorisation en axes principaux comme méthode d'extraction. Deux facteurs ont été extraits. Le premier, que nous avons appelé *Soutien social recherché*, expliquait 46,7 % de la variance, avait une valeur propre (*eigenvalue*) de 5,14 et comprenait six items dont la saturation se situait au-dessus du seuil de 0,4. Le deuxième facteur, que nous avons appelé *Soutien social reçu*, expliquait 14,5 % de la variance, avait une valeur propre (*eigenvalue*) de 1,59 et comprenait les cinq autres items. Voir le Tableau 1 pour les items individuels et leurs saturations. L'échelle *Soutien social recherché* qui en résulte (6 items, α = ,89) évalue les efforts faits par les jeunes pour obtenir de l'aide ainsi que leurs attitudes à l'égard de la demande d'aide. L'échelle *Soutien social reçu* (5 items, α = ,80) évalue l'aide ou l'encouragement fourni par d'autres personnes en période de détresse.

Tableau 1. Analyse factorielle des items de soutien social

Item	Saturation du facteur: Soutien social reçu	Saturation du facteur: Soutien social recherché	% ayant répondu « Particulièrement vrai »
Quelqu'un m'a aidé à me changer les idées.	,79		55,2
Quelqu'un m'a réconforté.	,73		62,6
Quelqu'un était là pour moi lors de moments difficiles.	,63		64,6
Quelqu'un m'a donné un endroit où je pouvais me réfugier pour un moment.	,62		42,0
Quelqu'un est venu chercher de l'aide avec moi.	,48		33,5
Je me sens mieux lorsque je parle aux gens de ce qui se passe.		,80	56,6
Cela m'aide de discuter de mes idées avec quelqu'un lorsque j'ai un problème.		,76	56,0
Je parle à quelqu'un pour m'aider à résoudre des problèmes.		,75	48,8
Discuter avec quelqu'un m'aide lorsque je suis bouleversé.e.		,68	57,9
Parler à quelqu'un qui a vécu la même chose m'aide.		,65	58,3
Je demande aux gens de m'aider à prendre des décisions difficiles.		,63	46,0
Valeurs propres initiales	5,14	1,59	
% de la variance expliquée	46,69	14,45	

Ces scores ont été utilisés pour créer quatre groupes de soutien social, en utilisant une répartition médiane pour chaque échelle de soutien social (jusqu'au 50e percentile inclusivement = 0, plus haut que le 50e percentile = 1), qui intègrent les compétences et les attitudes individuelles des jeunes en matière de recherche d'aide (un atout) et le niveau de soutien extérieur offert (ressources). Le groupe *Interconnecté* a obtenu un score élevé tant pour la recherche que pour l'obtention de soutien social. Le groupe *Pris en charge* a obtenu un score élevé pour le soutien social reçu, malgré des scores faibles pour la recherche de soutien social. Le profil du groupe *Repoussé* était également mixte, avec une forte recherche, mais seulement une faible réception de soutien social. Enfin, le groupe *Isolé* a obtenu de faibles scores tant pour la recherche que pour l'obtention de soutien social. Voir le Tableau 2 pour une représentation de ces groupes et les pourcentages de chacun.

Tableau 2. Le modèle de soutien social à double facteur et les pourcentages de chaque groupe dans cet échantillon

Soutien social reçu	Soutien social recherché: Recherche faible	Soutien social recherché: Recherche élevée
Réception faible	Isolé 39 % (*n* = 172)	Repoussé 12 % (*n* = 53)
Réception élevée	Pris en charge 16 % (*n* = 69)	Interconnecté 33 % (*n* = 146)

Note. Total *n* = 440.

Les forces d'autorégulation évaluent divers aspects du contrôle de soi, surtout lorsqu'on fait face à des difficultés. Ces échelles ont été développées ou adaptées par le biais d'une procédure de méthodes mixtes décrite ci-dessus (Hamby, Taylor, et al., 2018). L'échelle *Endurance psychologique* est une version simplifiée à 5 items d'une mesure (Hamby, Grych, et al., 2018) permettant d'évaluer la capacité d'une personne à persévérer malgré les difficultés (α = ,69). Un exemple d'item est « Lorsque des choses difficiles arrivent, je préfère les confronter directement ». *Rétablir l'affect positif* (α = ,81) est une mesure de 6 items qui évalue la capacité à retrouver une humeur joyeuse après avoir ressenti de la détresse. Un exemple d'un item est « Je peux me remonter le moral après une mauvaise journée ». L'échelle *Autonomie* mesure la capacité de s'adapter en utilisant ses propres ressources (3 items, α = ,81). Un exemple d'item est « J'aime régler mes problèmes par moi-même ». L'échelle *Contrôle des impulsions* évalue l'autorégulation comportementale (5 items, α = ,63). Un exemple d'item est « Je pense avant d'agir ».

Les capacités de création de sens évaluent les moyens par lesquels les individus cherchent à s'épanouir, souvent en se connectant à quelque chose de plus grand qu'eux (Hamby, Taylor, et al., 2018). *Raison d'être* (6 items ; α = ,88) implique de sentir qu'il y a un sens à la vie et une raison de vivre. Adapté pour les jeunes d'une version antérieure (Hamby, Grych, et al., 2018). Un exemple d'item est : « Mes valeurs donnent un sens à ma vie ». *Importance* (5 items; *α*

= ,86) évalue dans quelle mesure les participants se sentent appréciés et valorisés par les autres. Un exemple d'item est « Je me sens apprécié.e par ma famille et mes amis ». *Orientation future* (6 items; α = ,79) mesure le désir d'amélioration personnelle. Exemple d'item : « Les choix que je fais aujourd'hui sont importants pour mon futur ». *Motivation relationnelle* (3 items; α = ,70) fait référence au sentiment d'être inspiré par des personnes importantes dans sa vie. Exemple d'item : « Je veux que les gens dans ma vie soient fiers de moi ». *Sens religieux* (6 items; α = ,94) évalue la foi et l'engagement des individus dans les pratiques religieuses/spirituelles. Cette échelle a été adaptée pour les jeunes à partir d'une version précédente (Hamby, Grych, et al., 2018). Exemple d'item : « Lorsque j'ai un problème, je demande aux autres de prier pour moi ».

Les forces interpersonnelles comprennent les compétences relationnelles des participants ainsi que des indicateurs de soutien de leur environnement social plus large. *Compassion* (Hamby, Grych, et al., 2018) mesure la façon dont les gens interagissent avec les autres de façon bienveillante et aidante (4 items, α = ,80). Un exemple d'item est « Si quelqu'un vit des moments difficiles, j'essaie de prendre soin de cette personne ». *Soutien de la communauté* (Roberts et al., 2015) est composé de six items qui évaluent le degré d'entente et d'entraide entre voisins (α = ,80). Un exemple d'item est « Les gens de mon quartier offrent de s'entraider ». Les autres échelles de forces interpersonnelles ont été élaborées selon le processus mixte décrit ci-dessus et ont été conçues pour saisir d'autres aspects de l'écologie sociale des jeunes (Hamby, Taylor, et al., 2018). *Connexion au groupe* (6 items, α = ,80) évalue les sentiments de proximité et de soutien des groupes de pairs. Un exemple d'item est « J'ai appartenu à un groupe ou à une équipe de gens qui me défendaient ». *Climat scolaire* (6 items, α = ,78) mesure les caractéristiques des climats scolaires sains, comme « Le bâtiment de mon école est en bonne condition ». *Engagement des professeurs* (5 items, α = ,86) évalue les expériences des jeunes avec des enseignants enthousiastes et bienveillants. Un exemple d'item est « J'ai eu un professeur qui voulait que je réussisse à l'école ».

La polyvictimisation a été évaluée avec la version abrégée du *Questionnaire de victimisation juvénile (JVQ - Key Domains Short Form),* qui inclut 10 items évaluant l'historique d'une variété de formes de victimisation interpersonnelle vécues tout au long de la vie, adapté du JVQ original (Finkelhor et al., 2005; Hamby, Taylor, et al., 2018).). Un exemple d'item est « Durant ton enfance, est-ce qu'un de tes parents a menacé de blesser ton autre parent, et qu'il te semblait qu'il pourrait vraiment être blessé ? ». Les items dichotomiques (« oui » ou « non ») ont été additionnés pour créer un score total de victimisation (α = ,73). Le nombre médian de victimisations déclarées par les jeunes était de 3, avec une moyenne de M = 3,40 (ET = 2,43). Dans cet échantillon, plus de 3 jeunes sur 4 (75,9 %) ont déclaré deux formes de victimisation ou plus, et près de 9 jeunes sur 10 (89,3 %) ont déclaré au moins une forme de victimisation.

Fonctionnement global. Plusieurs indicateurs ont été utilisés pour évaluer le fonctionnement global. Dans le but d'examiner les multiples aspects du bien-être, des mesures ont été utilisées pour évaluer le bien-être et le fonctionnement psychologique, physique et spirituel. *Symptômes de trauma* (8 items, α = ,91) évalue une variété de sentiments de dysphorie, d'anxiété ou de culpabilité (Hamby, Taylor, et al., 2018). Un exemple est « Se sentir préoccupé·e ou anxieux·e dans le dernier mois ». Un score élevé indique plus de symptômes. *Health-related Quality of Life* (HRQOL; 5 items, α = ,64) se base sur la mesure du CDC (Centers for Disease Control and Prevention, 2000), simplifiée et adaptée le bien-être physique (Banyard et al., 2017). Un exemple d'item : « Durant le dernier mois, pendant combien de jours ta santé t'a empêché de faire tes activités habituelles, comme aller à l'école ou passer du temps avec des amis ? ». Des scores élevés sur cet index indiquent une meilleure qualité de vie liée à la santé au cours du moins précédent l'étude. *Bien-être subjectif* (7 items, α = ,90) examine la satisfaction générale de la vie fondée sur les forces, en opposition à l'absence de symptômes de psychopathologie (Hamby, Grych, et al., 2018). Un exemple d'item est « Je me sens vraiment bien par rapport à ma vie ». D'autres mesures du bien-être ont été développées en utilisant une approche basée sur les méthodes mixtes décrites précédemment (Hamby, Grych, et al., 2018). *Bien-être familial* (7 items, α = ,90) évaluait le bien-être subjectif de la famille immédiate et des proches vivant avec l'enfant. Un exemple d'item : « Ma famille est heureuse ». *Bien-être spirituel* inclus à la fois une sous-échelle théiste (5 items, α = ,95) et une sous-échelle non-théiste (5 items, α = ,82). La sous-échelle théiste évalue le bien-être fondé sur la présence d'un dieu ou d'une puissance supérieure similaire. Un exemple d'item est « Je me sens mieux quand je parle à Dieu ou à une force supérieure ». La sous-échelle non-théiste illustre un sentiment similaire d'émerveillement ou de bien-être provenant de sources moins religieuses, telles que ressentir un lien avec la nature. Un exemple d'item est « J'ai l'impression que tous les êtres vivants sont connectés ».

Analyses

Pour faciliter les comparaisons entre les mesures, tous les scores des échelles ont été standardisés en scores Z (moyennes converties à 0 avec un écart type de 1). Les statistiques descriptives ont été examinées pour identifier les caractéristiques de l'échantillon. Des analyses de covariance (ANCOVAs) ont été conduites pour examiner la différence entre les quatre groupes de soutien social, *Interconnecté, Repoussé, Pris en charge* et *Isolé*, suivi d'analyse post-hoc de comparaisons de moyennes. L'âge, le sexe, et la polyvictimisation ont été inclus dans le modèle comme covariables, et les forces psychosociales et les indicateurs de fonctionnement global comme variables dépendantes.

Résultats

Les expériences de soutien social

Plusieurs formes de soutien social ont été rapportées par une proportion substantielle de jeunes de l'échantillon. L'item le plus endossé des 11 items était « Quelqu'un était là pour moi lors de moments difficiles », avec 64 % de l'échantillon qui a répondu que c'était « En grande partie vrai » pour eux. L'item le moins endossé appartenait aussi à l'échelle Soutien social reçu : « Quelqu'un est venu chercher de l'aide avec moi », dont seulement 33,5 % ont répondu que c'était « En grande partie vrai » pour eux. Sur l'échelle Soutien social recherché, l'item le plus endossé est « Parler à quelqu'un qui a vécu la même chose m'aide », avec 58 % disant que c'était « En grande partie vrai ». Quelques formes de recherche de soutien social étaient moins communes comme « Je demande aux gens de m'aider à prendre des décisions difficiles » et « Je parle à quelqu'un pour m'aider à résoudre des problèmes », où moins de la moitié des jeunes ont indiqué que c'était « En grande partie vrai » (respectivement 46 % et 49 %).

Quatre groupes de soutien social et autres forces

Les ANCOVAs ont révélé plusieurs différences significatives dans les forces psychosociales parmi les quatre groupes de soutien, après avoir contrôlé pour l'âge, le sexe et la polyvictimisation.

Forces d'autorégulation. Nous avons d'abord examiné les différences entre les forces individuelles d'autorégulation des quatre groupes de soutien social : *Interconnecté, Repoussé, Pris en charge* et *Isolé*. Il y avait des différences significatives pour les quatre forces d'autorégulation, $p < 0,01$. Voir le Tableau 3. Pour ce qui est de l'endurance et du rétablissement de l'affect positif, les jeunes des groupes *Interconnecté* et *Repoussé*, qui étaient semblables entre eux, ont obtenu des scores plus élevés que les jeunes des groupes *Isolé* et *Pris en charge*. Les groupes *Isolé et Pris en charge* n'étaient pas significativement différents l'un de l'autre. En ce qui concerne l'autonomie, la situation était semblable, mais le groupe *Repoussé* ne différait pas des deux autres. Pour le contrôle des impulsions, seul le groupe *Interconnecté* a rapporté un niveau de contrôle des impulsions significativement plus élevé que les autres groupes. La répartition des scores était similaire pour les quatre variables, le groupe *Isolé* rapportant les scores les plus bas pour les quatre forces et le *groupe Pris en charge* se situant à l'avant-dernier rang. Le groupe *Interconnecté* a obtenu les scores les plus élevés, sauf pour l'endurance, pour laquelle le groupe *Repoussé* rapportait des scores légèrement (mais pas significativement) plus élevés. Pour toutes les comparaisons appariées, $p < ,05$.

Les covariables étaient significatives dans certaines de ces analyses. Pour l'âge, les jeunes plus âgés ont rapporté des niveaux plus élevés d'endurance, $p < ,05$, et de contrôle des impulsions, $p < ,01$. En ce qui a trait au sexe, les jeunes de sexe masculin ont rapporté des niveaux plus élevés d'endurance, $p < ,05$, et de rétablissement de l'affect positif, $p = ,001$. Concernant la polyvictimisation, des niveaux plus bas de victimisations étaient associés à un meilleur contrôle des impulsions, $p < ,001$, et à de meilleures facultés de rétablissement de l'affect positif, $p < ,001$.

Les capacités de création de sens. En ce qui concerne les capacités de création de sens, il y avait des différences significatives entre les groupes de soutien social pour toutes les cinq forces, $p < ,001$. Voir aussi le Tableau 3. Les comparaisons des moyennes indiquent que le groupe *Isolé* était significativement plus bas que les trois autres groupes pour chaque force, sauf celle concernant l'orientation vers l'avenir qui démontrait la même répartition que pour l'endurance et la faculté de rétablissement de l'affect positif, c'est-à-dire que les groupes *Isolé* et *Pris en charge* avaient des scores significativement plus bas que les groupes *Interconnecté* et *Repoussé*. En ce qui concerne le sentiment de raison d'être et la création de sens religieux, les jeunes du groupe *Interconnecté* en ont rapporté davantage que les autres jeunes. Les jeunes du groupe *Interconnecté* qui ont demandé et reçu de l'aide, ont rapporté significativement plus de sens que les autres. Toutefois, pour ce qui est du sentiment d'importance et de la motivation

relationnelle, alors que les jeunes *Isolé* ont rapporté les scores les plus bas, les trois autres groupes n'étaient pas significativement différents les uns des autres. Toutes les comparaisons par paires étaient significatives, $p < ,05$.

En ce qui a trait aux covariables, l'âge était significatif pour l'orientation vers l'avenir, $p < ,05$, et pour la création de sens religieux, $p < ,01$, indiquant que les participants s'orientaient davantage vers l'avenir et qu'ils faisaient moins de place à la religion en vieillissant. Un niveau plus bas de polyvictimisations était significativement associé à un plus haut niveau du sentiment d'importance, $p < ,001$, de raison d'être, $p < ,001$, et de motivation relationnelle, $p = ,01$.

Tableau 3. Moyennes et erreur-standards des forces psychosociales et du bien-être en fonction du groupe de soutien social

	Isolé	Pris en charge	Repoussé	Interconnecté		
	M (*ES*)	*M* (*ES*)	*M* (*ES*)	*M* (*ES*)	*F*	$\eta 2$
Forces d'autorégulation						
Rétablir l'affect positif	-,29 (0,07) $_a$	-,19 (0,11) $_a$	,14 (0,13) $_b$	,38 (0,08) $_b$	13,90 ***	,09
Endurance psychologique	-,28 (0,08) $_a$	-,05 (0,12) $_a$	,32 (0,13) $_b$	,26 (0,08) $_b$	9,74 ***	,06
Contrôle des impulsions	-,22 (0,08) $_a$	-,02 (0,11) $_a$	,07 (0,13) $_a$	,26 (0,08) $_b$	6,38 ***	,04
Autonomie	-,20 (0,08) $_a$	-,07 (0,12) $_a$	,03 (0,14) $_{a,b}$	,24 (0,08) $_b$	5,14 **	,04
Forces de création de sens						
Importance	-,45 (0,07) $_a$	,17 (0,10) $_b$	,17 (0,12) $_b$	,39 (0,07) $_b$	26,04 ***	,16
Raison d'être	-,42 (0,07) $_a$	-,03 (0,11) $_b$	,15 (0,13) $_b$	,45 (0,08) $_c$	23,47 ***	,14
Sens religieux	-,33 (0,07) $_a$	,04 (0,12) $_b$	,00 (0,13) $_b$	,37 (0,08) $_c$	13,72 ***	,09
Orientation future	-,31 (0,07) $_a$	-,10 (0,11) $_a$	,26 (0,13) $_b$	,34 (0,08) $_b$	13,37 ***	,09
Motivation relationnelle	-,34 (0,07) $_a$	,04 (0,12) $_b$	,20 (0,13) $_b$	,31 (0,08) $_b$	12,46 ***	,08
Forces interpersonnelles						
Engagement des professeurs	-,43 (0,07) $_a$	,19 (0,11) $_b$	,14 (0,13) $_b$	,35 (0,08) $_b$	18,77 ***	,12
Compassion	-,36 (0,07) $_a$	-,02 (0,11) $_b$	,23 (0,13) $_{b,c}$	,35 (0,08) $_c$	15,81 ***	,10
Climat scolaire	-,33 (0,07) $_a$	,08 (0,11) $_b$	,04 (0,13) $_b$	,37 (0,08) $_c$	14,88 ***	,10
Soutien de la communauté	-,34 (0,07) $_a$	,01 (0,11) $_b$	,12 (0,13) $_{b,c}$	,35 (0,08) $_c$	13,52 ***	,09
Connexion au groupe	-,30 (0,08) $_a$	-,03 (0,12) $_b$	,24 (0,13) $_{b,c}$	,29 (0,08) $_c$	10,57 ***	,07
Indicateurs de bien-être						
Bien-être subjectif	-,47 (0,07) $_a$	,19 (0,11) $_b$	,01 (0,12) $_b$	,45 (0,07) $_c$	28,22 ***	,17
Bien-être spirituel (non-théiste)	-,42 (0,08) $_a$	-,15 (0,11) $_b$	,19 (0,13) $_c$	,49 (0,08) $_d$	24,87 ***	,15
Bien-être spirituel (théiste)	-,41 (0,07) $_a$	,11 (0,11) $_b$	,04 (0,13) $_b$	,40 (0,08) $_c$	18,84 ***	,12
Bien-être familial	-,29 (0,07) $_a$	,08 (0,11) $_{b,c}$	-,03 (0,12) $_{a,b}$	,31 (0,08) $_c$	11,77 ***	,08
Bien-être physique	-,21 (0,07) $_a$	,11 (0,11) $_b$	,03 (0,13) $_{a,b}$	,17 (0,08) $_b$	4,55 **	,03
Symptômes de trauma	-,06 (0,07) $_a$	,10 (0,11) $_a$	-,10 (0,13) $_a$	,04 (0,08) $_a$	0,78	,01

Note. ****p* < ,001; ***p* < ,01. Les moyennes avec des indices distincts sont significativement différentes les unes des autres, $p < ,05$. Toutes les moyennes ont été converties en scores z (moyenne = 0 ; *ET* = 1), les scores les plus élevés indiquant des niveaux plus élevés de chaque force. Les moyennes et les erreur-types de mesure sont ajustées en fonction de l'âge, du sexe et de l'historique de victimisation.

Les forces interpersonnelles. Chacune des forces interpersonnelles a montré un patron similaire à celles d'autorégulation et de création de sens, avec le groupe *Isolé* rapportant les niveaux les plus bas de forces interpersonnelles, le groupe *Interconnecté*, les plus élevés, et les groupes *Repoussé* et *Pris en charge*, se situant au milieu. Cependant, le groupe *Repoussé* ressemblait davantage au groupe *Interconnecté* que le groupe *Pris en charge*. Toutes les cinq ANCOVAs pour les forces interpersonnelles étaient significatives, $p < ,001$. Voir Tableau 3. Pour le soutien de la communauté, la compassion et la connexion au groupe, le groupe *Repoussé* était statistiquement similaire au groupe *Interconnecté*, alors que le *Pris en charge*, était significativement plus bas (pour les comparaisons appariées, $p < ,05$). Cela peut suggérer que les jeunes qui ne reçoivent pas de soutien social cherchent peut-être à établir des liens avec des groupes ou à développer de la compassion pour les autres afin de compenser. Pour ce qui est de l'engagement des enseignants, le groupe *Isolé* était significativement plus faible que les trois autres, qui étaient statistiquement similaires.

L'âge était une covariable significative pour la compassion, $p = ,01$, et le climat scolaire, $p = ,001$, avec les participants plus âgés rapportant plus de compassion et un meilleur climat scolaire que les participants plus jeunes. Le

sexe était une covariable significative pour la compassion, $p < ,001$, les femmes rapportant plus de compassion que les hommes. La polyvictimisation était également une covariable significative pour le soutien communautaire, $p = ,01$, et le climat scolaire, $p < ,001$, les participants rapportant des scores plus élevés lorsque la victimisation était plus faible que lorsqu'elle était plus élevée.

Quatre groupes de soutien social et fonctionnement actuel

Les groupes de soutien social différaient sur cinq des six indicateurs de bien-être, $p < ,01$, à l'exception des symptômes traumatiques qui n'étaient pas significatifs. Bien que le groupe *Repoussé*, dans l'ensemble, ait déclaré faire mieux que le groupe *Pris en charge* dans les trois domaines des forces psychosociales (régulation, création de sens et relations interpersonnelles), cette tendance n'a pas été observée dans les mesures du bien-être, sauf pour le bien-être spirituel non-théiste. Bien que les deux groupes mixtes se soient à nouveau situés entre les groupes *Isolé* et *Interconnecté* sur toutes les mesures de fonctionnement, le groupe *Pris en charge* présentait, de façon générale, des scores légèrement (mais non significativement) plus élevés que le groupe *Repoussé*. Étonnamment, il n'y avait pas de différences significatives pour les symptômes traumatiques. Le bien-être spirituel non-théiste était la seule variable pour laquelle les quatre groupes étaient significativement différents les uns des autres. Voir le Tableau 3.

L'âge était une covariable significative pour les symptômes traumatiques, $p < ,05$, et le bien-être spirituel théiste, $p < ,01$, les participants plus âgés rapportant plus de symptômes traumatiques et moins de bien-être théiste que les participants plus jeunes. Le sexe était une covariable significative du bien-être physique, $p < ,05$, et des symptômes traumatiques, $p < ,05$, les hommes déclarant un meilleur bien-être physique que les femmes et les femmes déclarant plus de symptômes traumatiques que les hommes.

La polyvictimisation était une covariable significative pour le bien-être subjectif, le bien-être familial et le bien-être physique (tous à $p < ,001$), les participants ayant déclaré des scores de bien-être plus élevés lorsque la polyvictimisation était faible que lorsque la victimisation était élevée. La polyvictimisation a également montré une association positive avec les symptômes traumatiques ($p = ,05$) et le bien-être spirituel non-théiste ($p < ,05$).

Discussion

À notre connaissance, cette étude est la première à explorer à la fois l'impact de la recherche et de l'obtention du soutien social chez les jeunes en utilisant une approche à double facteur. Nous avons examiné quatre groupes : les jeunes du groupe *Interconnecté*, qui ont obtenu un score élevé de recherche et de réception de soutien social ; les jeunes du groupe *Isolé*, qui ont déclaré avoir peu cherché et peu reçu de soutien ; un groupe *Repoussé* qui a déclaré avoir beaucoup recherché de soutien social, mais en avoir peu reçu; et un groupe *Pris en charge* qui a reçu beaucoup de soutien social malgré en avoir peu recherché. Ce dernier groupe, particulièrement pertinent pour les jeunes ayant des donneurs de soins, des enseignants ou d'autres adultes qui tentent de s'occuper d'eux même s'ils n'expriment pas facilement leurs besoins, a fait l'objet de peu d'attention de la part des chercheurs. Des travaux antérieurs sur le modèle à double facteur de la santé mentale ont révélé des nuances qui n'étaient pas apparentes en examinant uniquement la psychopathologie ou le bien-être comme constructions distinctes (Antaramian et al., 2010; Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008). De même, cette approche à double facteur du soutien social peut intégrer les résultats de travaux précédemment menés sur le soutien social et la recherche d'aide de façon séparée, et fournir des indications qui pourront mieux orienter les recherches, la prévention et les interventions futures.

Tel qu'attendu, et conformément au *Resilience Portfolio Model* ainsi qu'aux recherches antérieures (Chu et al., 2010; Grych et al., 2015), les jeunes du groupe *Interconnecté* ont obtenu des scores significativement plus élevés que le groupe *Isolé* pour chaque force psychosociale et chaque indicateur de fonctionnement actuel, à l'exception des symptômes traumatiques. La différence moyenne entre ces deux groupes était d'un écart-type de 0,65 (en utilisant les scores-z). Il y avait une certaine variabilité dans les schémas de significativité de ces groupes par rapport aux deux profils mixtes, mais les groupes *Repoussé* et *Pris en charge* se situaient généralement entre les deux et étaient significativement différents des groupes *Interconnecté* et *Isolé* sur de nombreuses variables, y compris la raison d'être, la création de sens religieux, le climat scolaire, le bien-être subjectif, le bien-être familial et le bien-être spirituel théiste et non-théiste.

Plus particulièrement, le groupe *Repoussé* a rapporté des niveaux plus élevés de certaines forces psychosociales que le groupe *Pris en charge*, notamment quant au rétablissement de l'affect positif, l'endurance et l'orientation future. Le groupe *Repoussé* a également montré un bien-être spirituel non-théiste plus élevé que le

groupe *Pris en charge*. Le groupe *Pris en charge* n'a jamais été significativement plus élevé que le groupe *Repoussé*. Dans l'ensemble, le groupe *Repoussé* était similaire au groupe *Interconnecté* en ce qui concerne la plupart des forces psychosociales (statistiquement indiscernable sur 10 des 14). En moyenne, le groupe *Repoussé* se situait à un écart-type de 0,19 en dessous du groupe *Interconnecté*. En revanche, le groupe *Pris en charge* était souvent inférieur au groupe *Interconnecté* (significativement plus bas sur 11 des 14 points forts), avec des scores moyens se situant à un écart-type de 0,34 en dessous du groupe *Interconnecté*. Cependant, bien que les différences ne soient pas statistiquement significatives, ce schéma variait pour la plupart des variables de bien-être (toutes sauf le bien-être spirituel non-théiste), le groupe *Pris en charge* rapportant un bien-être légèrement plus élevé que le groupe *Repoussé*. Les groupes *Pris en charge* et *Repoussé* se situaient tous deux significativement plus bas que le groupe *Interconnecté* pour trois des variables de bien-être, le bien-être subjectif et les deux formes de bien-être spirituel.

Le *Resilience Portfolio Model* reconnaît que même si les portfolios de forces plus denses et plus diversifiés sont bénéfiques, certaines personnes n'ont pas les ressources ou les moyens de les utiliser. Concernant s'il est préférable de rechercher ou de recevoir du soutien, ces résultats suggèrent que les compétences et les attitudes individuelles peuvent être plus utiles aux jeunes que les offres de soutien externes. Il existe un vieil adage en psychothérapie qui dit : « Ne travaille jamais plus fort que ton client », et il est possible qu'offrir du soutien social lorsqu'un jeune n'a pas demandé d'aide ou qu'il résiste à reconnaître son besoin d'aide soit contre-productif. Cette question peut être particulièrement importante pour les jeunes qui ont moins de contrôle sur le moment et la manière dont ils sollicitent une psychothérapie et d'autres services de soins de santé. Il s'agit d'un phénomène encore peu étudié qui nécessite une plus grande attention.

Une autre possibilité est que les jeunes du groupe *Repoussé* « s'endurcissent », c'est-à-dire qu'ils essaient de se renforcer ou de réduire leurs vulnérabilités (Rutter, 2012) en réponse à un environnement qui offre peu de soutien, que ce soit par manque de ressources ou par négligence ou hostilité. Cela se reflète dans la nature des forces distinguant davantage les groupes *Repoussé* et *Pris en charge.* Une plus forte orientation vers l'avenir peut être due à la motivation d'échapper à un environnement dysfonctionnel, et une plus grande endurance peut indiquer que les jeunes s'endurcissent pour survivre dans des circonstances difficiles. L'hypothèse de l'endurcissement est également soutenue par les différences observées dans les mesures de bien-être : les scores élevés du groupe *Repoussé* aux différentes forces montraient peu de bénéfices puisque leur bien-être actuel se situait plus près du groupe *Pris en charge* que du groupe *Interconnecté.*

Ces résultats sont largement comparables à ceux d'autres publications qui ont établi une association positive entre le soutien social et le fonctionnement actuel des jeunes (Chu et al., 2010). Comme on l'a déjà noté (Chu et al., 2010), les recherches antérieures sur le soutien social, bien que cohérentes avec un effet global positif, ont également rapporté des résultats plus hétérogènes que prévu et les présents résultats suggèrent une explication à cela. Même si des recherches antérieures ont étudié différents types de soutien social (degré de soutien provenant de différentes sources, accès à différents types de ressources), peu d'entre elles ont étudié les modes de recherche et d'obtention et, à notre connaissance, aucune étude n'a examiné l'équivalent du groupe *Pris en charge* de la présente étude. Bien que des recherches antérieures aient étudié l'association du soutien social avec d'autres indicateurs de l'écologie sociale (Turner et al., 2017), les résultats de cette étude suggèrent que les liens entre le soutien social et d'autres forces ne se limitent pas aux indicateurs environnementaux tels que le climat scolaire ou le soutien communautaire, mais s'étendent à d'autres types de forces. Les résultats des covariables sont largement similaires à ceux des recherches précédentes, de nombreux facteurs s'améliorant avec l'âge (à l'exception des facteurs religieux qui diminuent généralement pendant cette période de développement), et des résultats plus dispersés en ce qui a trait aux différences entre les sexes (Hagler et al., 2016; Hamby et al., 2017). Le fait que la polyvictimisation soit inversement associée aux nombreuses forces et indicateurs de fonctionnement global est aussi conforme aux recherches précédentes (p. ex., Hamby, Grych, et al., 2018; Turner et al., 2017).

Une question soulevée par ces données est de savoir dans quelle mesure une tendance à la recherche de soutien social doit être considérée comme une force individuelle par rapport à un phénomène exclusivement relationnel. De nombreuses mesures et plusieurs modèles de soutien social sont axés sur les ressources externes, telles que la taille des réseaux sociaux, la diversité des ressources accessibles, la quantité de soutien fourni ou la satisfaction à l'égard du soutien fourni (Barrera, 1986; Sarason et al., 1983; Sherbourne & Stewart, 1991; Zimet et al., 1988), et ne mettent pas l'accent sur ce que font les individus pour favoriser les relations sociales ou solliciter de l'aide. Ces données montrent que les deux sont nécessaires pour un bénéfice optimal et que les actions et les attitudes individuelles peuvent être plus importantes pour le fonctionnement des jeunes que ce qui est offert de l'extérieur.

Forces et limites de l'étude

Les résultats de cette étude devraient être évalués en tenant compte des forces et des limites du projet. Ce dernier enrichit les études sur le soutien social en séparant la recherche de soutien social de la réception de soutien social et en se concentrant sur les jeunes qui peuvent recevoir un niveau élevé de soutien malgré un faible niveau de recherche. Le projet élargit également le nombre de caractéristiques et d'indicateurs de bien-être qui ont été étudiés en relation avec le soutien social. L'étude approfondit également les informations sur le soutien social dans les communautés à faible revenu du sud des États-Unis. Néanmoins, il serait utile de reproduire ces résultats dans d'autres populations provenant d'autres régions des États-Unis et du monde. Cette étude transversale était un moyen approprié et rentable d'explorer de nouvelles idées, mais les résultats gagneraient à être reproduits dans une étude longitudinale.

Implications pour la recherche

Ce modèle de soutien social à double facteur est une approche prometteuse pour élargir notre compréhension de la manière d'aider les jeunes qui ont connu l'adversité. Les recherches futures peuvent faire davantage pour explorer pourquoi des différences ont été constatées pour certaines formes de bien-être, comme le bien-être subjectif ou spirituel, mais pas pour le bien-être physique ou les symptômes traumatiques. Il serait également utile d'examiner, dans des études futures avec des échantillons plus importants ou plus diversifiés, si le modèle à double facteur varie en fonction de l'âge, de l'identité raciale et ethnique, du sexe, de l'orientation sexuelle ou d'autres caractéristiques. Les recherches futures pourraient intégrer de multiples répondants ou d'autres sources de données et adopter différentes méthodes d'échantillonnage. Il serait également utile d'étudier comment le modèle à double facteur de soutien social pourrait varier selon que la demande d'aide soit formelle ou informelle. Les recherches futures doivent faire plus que simplement examiner les différents indicateurs de soutien social ou d'écologie sociale et étudier les façons dont ces divers facteurs peuvent se combiner pour influencer le bien-être et la résilience des jeunes.

Implications pour l'intervention et la prévention

Les parents, les enseignants, les thérapeutes et les autres personnes qui travaillent avec des adolescents qui, pour une raison quelconque, ne peuvent ou ne veulent pas exprimer leurs besoins et rechercher du soutien, peuvent se demander s'il vaut mieux deviner ces besoins et essayer d'y répondre, ou s'il vaut mieux encourager les jeunes à aller vers les autres et à parler de leurs besoins. La présente étude montre qu'il existe un lien positif entre l'efficacité des compétences et des attitudes de recherche de soutien social et les indicateurs de forces psychosociales et de fonctionnement global, ce qui laisse penser que cette dernière stratégie pourrait peut-être apporter des avantages à plus long terme. Les résultats de cette étude suggèrent qu'il est plus important d'encourager la recherche d'aide et les attitudes positives envers le partage, la divulgation et l'obtention de conseils, que de se contenter de fournir un soutien aux jeunes, qu'ils le veuillent ou non. Bien entendu, il existe des obligations légales d'aider les jeunes dans certaines circonstances. Des techniques telles que l'entretien motivationnel (Arkowitz et al., 2015), qui met l'accent sur l'engagement des clients, est une approche basée sur les données probantes pouvant servir à travailler avec des jeunes qui peuvent avoir besoin d'aide (du point de vue d'un adulte), mais ne l'ont pas demandé.

Ces données indiquent également qu'il faut à la fois rechercher et recevoir un soutien social pour atteindre de plus hauts niveaux de fonctionnement, sur un large éventail de mesures. Les organismes et les communautés doivent s'assurer que lorsque les jeunes cherchent à obtenir un soutien social, ils le reçoivent, en particulier lorsque les familles et les pairs n'en offrent pas. Les approches multidisciplinaires, telles que les centres de protection de la jeunesse, sont une des approches conçues pour améliorer la qualité de la lutte contre la victimisation, mais des recherches supplémentaires sont nécessaires concernant les éléments qui améliorent le plus l'écologie sociale des jeunes (Elmquist et al., 2015). Une écologie sociale saine signifie un fonctionnement optimal des individus, des familles et des communautés.

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Conflit d'intérêt

Les auteur.es déclarent n'avoir aucun conflit d'intérêts.

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From adverse childhood experiences to wellbeing: Portfolios of resilience

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Abstract

Resilience has always been present across human history, as we have contended with the wide array of adversities. Resilience research has gained significantly increasing momentum as a core principle of the trauma-informed approach to service. Resilience research supports not only targeting psychopathology symptom reduction, but also recognizing a portfolio of resilience components to harness in youth interventions. The present discussion considers the innovative research work of Hamby and colleagues (2020) in terms of their portfolio of resilience model and current evidence for a dual-factor model of social support (social support seeking and social support receiving). Social support is a frequent intervention component, particularly in developing help-seeking skills, within youth programming. Their findings support this factorial approach that considers the giving-receiving experience, and how the four categories of Interconnected, Rebuffed, Tended, and Isolated may relate to differing resilience profiles. This research raises important questions for future work in terms of the fit between seeking and receiving that places the youth centrally in this consideration. Youths' journey from trauma to resilience in a way that validates their portfolio of resilience assets, strengths, and potential is central to a trauma-informed approach to youth well-being, as well as how we negotiate youth rights with our developmental, clinical and health responsibilities.

Keywords: Resilience; intervention; youth; resilience profiles; social support.

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Introduction

The Global Status Report on Preventing Violence Against Children (World Health Organization, 2020a) summarized global estimates on child maltreatment. The levels of violence in the lives of youth are staggering: 300 million toddlers receive physical and/or psychological abuse; 120 million girls and young women have experienced forced sexual contact; and there are 40k-plus child and youth homicides yearly (World Health Organization, 2020b). Stunningly, Hillis and colleagues (2016), in a systematic review of data from 96 countries, concluded that 50% of children had experienced past-year violence in Asia, Africa and North America. In the US, substantiated maltreatment to infants and toddlers (newborn to 3 years old) occurred at a rate of 15 per 1000; substantiated neglect increased from 1990 (49% of all substantiated maltreatment) to 2017 (75% of all substantiated maltreatment) (U.S. Department of Health and Human Services, 2002-2019). In the US, from 2016 to 2017, the rate of violence victimization of youth aged 12 to 17 increased significantly by 34% (Morgan & Truman, 2019). Even more disruptive to the social fabric and social safety nets, is the knowledge that child abuse is considered widely to be under-captured. Grievously, we have seen time and again perpetrators of multiple victims by severe means fail to be met with justice. High-powered offenders and enablers – Ted Heath, Jimmy Savile, Jeffrey Epstein, Cardinal Pell – have revealed the concealed systematic, organized harms to children. Who allows this all to happen? How do we remediate such failings to children and youth?

Children have rights and adults have responsibilities. We have our intelligence and our agents of change. Positively, there has been near universal commitment that children need to be considered a privileged population, with the United Nations Convention on the Rights of the Child, which celebrated its 30th anniversary in 2019. So, what has gone so very wrong in the past 30-plus years that we seem to be further away from achieving zero tolerance on attacking a child? The 2030 Sustainable Development Goals highlight that only 10 years remain for us to course correct so that SDG 16.2 may be realized (i.e., ending abuse, exploitation, trafficking, and all forms of violence against and torture of children). Research has made it clear that abuse and neglect, particularly in poly-victimization contexts, interferes with adolescent well-being (Turner et al., 2015; 2016), as well as adult health (Banyard et al., 2017). For example, in a British cohort study, childhood victimization increased the likelihood of poor socioeconomic outcomes at the age of 50 (Pereira et al., 2017). Violence reverberates and ricochets.

Does it make sense to be optimistic? Two lines of research justify optimism: (1) child maltreatment prevention, and (2) resilience to address potential cycles of violence. Childhood limited maltreatment does not seem to increase the likelihood of perpetrating child maltreatment (Thornberry & Henry, 2013), or that it may operate, in part, via financial strain when the victim becomes a parent (Henry et al., 2018). Women who had child maltreatment histories were shown to be more likely to experience intimate partner violence (IPV) and have poor health in pregnancy, as well as at one-year and four-years postpartum (Gartland et al., 2019). Interestingly, resilient outcomes were suggested for children when IPV was not present. Policies that strengthen household financial security and reduce partner violence are tangible, and perhaps essential, components of child maltreatment prevention.

Beyond adversities that may be relatively constant at the family and community level, there are those that arise opportunistically. The COVID-19 pandemic measures meant more youth were online as an adaptive response to restrictions. In an online survey of over 2000 respondents (U-Report Voice Matters, 2020), 67% of youth reported that their friends were able to help during the COVID-19 pandemic. At the same time, the U-Report study found that 47% of youth reported increased negative experiences online (e.g., cyber-bulling, harassment, inappropriate content, and unwanted contact). Further, 85% "worried about the future". Oosterhoff and colleague's (2020) population-based survey of US youth found that most were not engaging in social distancing, but were monitoring the news and disinfecting daily. For youth wellness, the positive social ecology increases in saliency wherein the affiliation system confers stress buffering, as well as motivation for engagement in resilience actions (Hamby et al., 2019; Kent, 2012; Supkoff et al., 2012). This can be seen powerfully in the peaceful protesting for right action for people of color, where youth advocates and participants dominate.

Resilience portfolios

Resilience is defined in the first instance by the presence of adversity (i.e., something to work through and overcome, a trauma event that may or may not engender trauma-specific symptoms, or may yield reactivity subsequently, with or without a stress trigger; Wekerle et al., 2020). There is a trauma adaptation process, whereby functional impairment is time-limited, recovered from, or avoided by means of galvanizing inner resources with external resources (Ungar, 2012). Resilience provides a greater emphasis on positive health, rather than the absence or

return to "normal" psychological distress and trauma symptomology. Like an investment portfolio, the brilliance of a portfolio concept is that it reflects dynamism, monitoring and future orientation. It can reference surviving to thriving after the adversity of poly-victimization (Grych et al., 2015; Hamby et al., 2018a). Key social support processes include emotion regulation via social support and positive social referencing (Clément & Dukes, 2017), and the instrumental value of social support via provision of resources and access to networks (i.e., social capital; Lui & Ngai, 2019). The goal of the resilience portfolio model is integrative across domains, building from the extant literature on key resilience factors (Hamby et al., 2018a). Personal understandings are important (e.g., "I have something to be proud of"; "I changed my priorities about what is important in life"). Resilience from trauma has been labelled post-traumatic positive growth; resilience factors significantly related to growth included compassion, religious meaning-making, purpose, emotion awareness and regulation, and a sense of endurance. A sense of purpose was significant across the prediction of various resilience outcomes (subjective well-being; post-traumatic growth; mental health). Clearly, purpose is relational where feedback on its validity and impact would seem important, as would be the contexts and support in which purpose could be realized. In this issue, Hamby and colleagues ask the question for social support: Is it better to seek or to receive?

Social support

Hamby et al. (2020) focus on the important developmental stage of adolescence to young adulthood. In this age grouping, behavioral patterns are not crystallized and, as such, resilience is a critical counterpoint to risk-taking. Social support seeking and receiving were considered as a two-by-two quadrant of present/absent, yielding categories of Interconnected (seeking and receiving), Rebuffed (seeking but not receiving), Tended (non-seeking but receiving) and Isolated (neither seeking nor receiving). The Rebuffed and Tended group were more similar than not, potentially suggesting that youths' experience of mismatch with personal agency may be at issue. Given that trauma is correlated with domination, loss, shame and dissociation, threat may be more activated when agency is not at the forefront of an experience. This fits with qualitative work that "advocating for self" may be an important resilience component of redefining self-identity (Yoon et al., 2020).

Trauma-informed principles (Elliott et al., 2005), in bringing together trauma, empowerment and relational theories, focus on agency so that there is a higher likelihood of post-traumatic growth and a lower likelihood of revictimization. Mutuality and collaboration are underpinning processes for conscious choice and control over actions that are in opposition to traumatic correlates of powerlessness and being overwhelmed. When the environment does not match expectations, greater non-positive reinforcement or punishment may dampen the continuation or impact of resilience behaviors. Based on a clinical practices perspective, Elliott et al. (2005) emphasize that, as trauma occurs in relationships, healing may benefit most from an interpersonal context; experiences that confirm the opposite of traumatization are needed (i.e., **r**espect, accurate **i**nformation, genuine **c**onnection, **h**ope – RICH relationship). In trauma contexts, personal and psychological safety are fleeting, if present at all. Safe relationships are wanted, accepted, consistent, predictable and non-violent; Elliott et al. (2005) further highlights that safety includes the cognizance of perceived sexualization, whereby touch, graphic content, etc. may be triggering trauma reactivity. The experience of sexual abuse seems to be under-queried when other forms of maltreatment exist, with research pointing to the significant overlap of sexual abuse with all other forms of maltreatment (e.g., Wekerle et al., 2020).

As Hamby et al. (2020) note, the optimal scenario is when a distressed person seeks support, their circle of support activates and provides responsive care. As noted, a challenge may exist when those involved in the traumatization remain options for support among few others, when perpetrators may actively seek to engender dysfunctional family dynamics. Even in support seeking, then, those betraying and coercive transaction may drive "support" provision. In this way, Hamby et al.'s dual-factor approach to social support better approximates the reality of victim/survivors.

In Hamby's et al. (2020) measurement model, social support items reflect general experiences as "not true about me" to "mostly true about me," rather than being anchored to specific trauma events or a timeframe of high need for support. In this way, it is not possible to disentangle changes in youths' approach to social support. As noted by the authors, this contribution represents a new approach that provides many interesting options to capture change and outcome in the youths' key persons (confidants), peer group constellations, adult mentors, access to spiritual directors or Elders, or the extent to which professionals are part of the support network. It will be interesting to follow as to whether the Hamby et al. (2020) social support conceptualization develops further in its developmental approach. Part of resilience is deciphering what sort of support you can reasonably obtain from what supporters and to identify

and fill the gaps in the social safety net. The dual-factor model of social support has opened up this avenue of resilience work.

Trauma and recovering joy

We do understand from research that trauma increases the salience of negative or threat signals in the environment, which can translate into an impairing form of hypervigilance whereby stress narrows the attentional field (Wekerle et al., 2020). Consequently, positive information in the environment or with respect to the self may process at slower speeds or be ignored. While positive and negative activity and activation have been considered discreet, recent work suggests that in contexts of dysphoria, they may be more linked than orthogonal (Dejonckheere et al., 2018, 2019). When experiencing high stress, information processing for both positive and negative affective content may be overloading. Coherent, consistent engagement with positive feelings and support should buffer distress and mitigate anhedonia (i.e., the inability to experience joy or pleasure). Negative expectations may also influence whether positivity and negativity remain distinct (Dejonckheere et al., 2019), which argues for a consideration of proactively considering social support when there are anticipated known distress events, such as being transitioned out of foster care when age limits are reached. Context-dependent fluctuations would seem to be met better with social support seeking flexibility. The scale, *Recovering Positive Affect*, has items such as "I can cheer myself up after a bad day" (Hamby et al., 2018b). This seems very significant for youth who have experienced poly-victimization, where violence may come unpredictably from in-person and/or on-line sources. It is interesting that Hamby et al. (2020) found that males had higher scores than females on endurance and recovering positive affect; females had higher trauma symptoms. Such gender differences may be interesting to pursue, and may relate to whether or not sexual violence victimization was experienced, as this tends to predominate among females. In our research with youth receiving child welfare services, males who reported childhood sexual abuse experiences were more likely than those maltreated in other ways to identify more motives for engaging in adolescent sex, including partner and peer approval, as well as coping with negative affect. For males without child sexual abuse, pleasure motives seemed more salient (Wekerle et al., 2017).

Emotion regulation is challenged by particular trauma response patterns, such as depersonalization, desensitization, and dissociation that, in some way, takes the youth out of the social interaction. As one of the factors in the resilience portfolio model, regulatory strength may be more challenging in needing to be on-going and responsive to the moment. In the Hamby et al. (2020) study, the Isolated and Tended groups reported lower regulatory strength than did the Interconnected and Rebuffed groups, the latter two showing similar levels. For some traumatized youth, isolation may feel like it creates greater safety and predictability on the one hand, but may engender greater loneliness on the other. It may be that the Tended group have a similar low outreach approach. As authors noted, cultural factors are likely to be relevant when discerning motives for social support (e.g., Ishii et al., 2017).

Overall, the resilience portfolio model held in distinguishing social support groupings, with the Interconnected group generally showing the highest levels of resilience and positive outcomes, and the Isolated group showing the lowest. While we cannot make much of negative findings, trauma symptoms did not discriminate among these groups. With females reporting more trauma symptoms than males, we may need to review our measurement model to ascertain if we are adequately acknowledging male-style trauma symptoms that tend to be more acting out. Recent research suggests that the brain region that integrates acting and emoting is accelerated in growth for girls with post-traumatic stress disorder, but not boys (Klabunde et al., 2017). These authors suggest that sex-specific approaches to bolster emotion regulation may be warranted.

Summary and implications

As the first study to explore a dual-factor approach to youth social support, this study is notable in extending and refining conceptual and measurement models of the broader resilience portfolio model. Interestingly, the Rebuffed group does not always show significant differences from the Interconnected group which may say something about trying to connect, and perceptions of successful connecting. As the authors point out, the Tended group is a relative unknown - individuals are drawn to the youth, offer bids of support, yet youth are relatively non-seeking support. That they were significantly lower than the Interconnected group raises interesting questions that may benefit from consideration of moderators of the experience of received support (i.e., from whom, when, in what context). Supporters who may be uncomfortable in distress emotion states may withdraw support or be unavailable at high need times, but be present at no-need or low-need times, leaving a youth with an experience of neglect and intrusiveness with received support. As the authors point out, it may reflect a lack of fit in terms of "readiness for support." The youth may prioritize

their self-sufficiency above receiving support, such that unsolicited support may be interpreted as signaling expectations of failure or low efficacy. What is exciting about this research is the multiple ways in which to move forward with different sub-groups of youth. This study recruited from youth-serving organizations, and concentrating on specific organizations may further enhance our understanding of resilience. The authors highlight an important point in the consideration of "optimum benefit" which might assume that youth with trauma experiences are accurate (rather than developing) self-assessors in terms of what does actually seem to work better for them as support, and what is better tolerated. The benefit of a circle of trust is that the support group can be checked in with for feedback for a youth questioning their understanding, interpretation or approach in situations. Resilience is a growth process with inherent clinical implications. Hamby et al. (2020) highlight motivational interviewing as one clinical mode whereby the youth can set their goals and critically reflect on the pros and cons of their behavioral choices and patterns, as one route to moving forward towards healing and better health decision-making. It is the case, though, that resilience interventions have significantly lagged behind the development of resilience knowledge. The development and testing of intervention that attends to the broad portfolio of assets, strength, and development is a key research stream future forward.

In sum, the adolescent to young adult years amplify affiliation needs, independence strivings, and self-identity development. It remains a critical period to foster a healthy social ecology. With the 2030 Sustainable Development Goals on well-being, there is cause for optimism that we are forging our understandings of pathways to resilience and, hopefully, violence prevention. Children and youth are the most victimized segment of our world. It does not need to be this way. We have already agreed that it should not. Resilience intervention is one part of a multi-system, multi-level need that will increasingly amplify youth voices. When youth feel it is safe and appropriate to do so, speaking up and speaking us into serious positive action for their resilience will ripple across broken systems. The adults of the world set the target goal as 2030, and we have 10 years to forge a research-to-action *magnum opus*. A seismic change is in order.

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Conflict of interest

The authors have no conflict of interest to disclose.

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Validation d'une échelle de résilience (CD-RISC 10) auprès des mères d'enfants victimes d'agression sexuelle

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Résumé

Objectifs : La présente étude a pour but de valider une version franco-canadienne de l'échelle de résilience *Connor-Davidson Resilience scale* (CD-RISC 10; Campbell-Sills & Stein, 2007; Hébert et al., 2018) auprès d'une population de mères d'enfants victimes d'agression sexuelle.

Méthode : Un échantillon de 361 mères a été recruté dans différents centres d'intervention du Québec spécialisés en agression sexuelle. Les participantes ont complété le CD-RISC 10 ainsi qu'un questionnaire mesurant la détresse psychologique, les symptômes de stress post-traumatique et le sentiment d'empowerment pour évaluer les liens entre ces mesures et le CD-RISC 10.

Résultats : Les résultats d'une analyse factorielle confirmatoire confirment une structure unifactorielle expliquant 62,49 % de la variance et les valeurs des indices de fidélité reflètent une bonne consistance interne (α = ,86; H = ,90; ω = ,89). Comme attendu, les scores sur l'échelle de résilience sont négativement corrélés à ceux aux échelles de symptômes de stress post-traumatique (r = -0,24, p < ,01) et de détresse psychologique (r = -,34, p < ,01), ainsi que positivement corrélés à la mesure du sentiment d'empowerment (r = ,30, p < ,01).

Implications : Le CD-RISC 10 est un outil adapté et rapide qui permet d'évaluer adéquatement la résilience dans cette population clinique.

Mots-clés : Résilience; mesure; validation; agression sexuelle.

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Introduction

L'agression sexuelle à l'enfance est une problématique sociale alarmante qui entraîne des conséquences psychologiques importantes chez l'enfant (Hébert et al., 2019). Les jeunes victimes d'agression sexuelle sont plus à risque de présenter des symptômes de stress post-traumatique, de la détresse psychologique et des comportements extériorisés (Hébert et al., 2019). Cependant, les études ont démontré que les profils des enfants victimes sont hétérogènes et que certains enfants ne présentaient que peu, ou pas de symptômes (Domhardt et al., 2015). Ces résultats suggèrent que des caractéristiques de l'enfant et de son environnement pourraient agir comme facteurs de protection (Afifi & MacMillan, 2011). Parmi ces facteurs, l'un des plus étudiés est le soutien parental. Les mères, étant généralement les premières personnes vers qui les enfants se tournent pour dévoiler l'agression sexuelle (Allnock & Miller, 2013), doivent leur fournir un soutien adéquat tout en ayant à gérer leur propre détresse émotionnelle (Daignault et al., 2018). Les études ont d'ailleurs suggéré que le soutien du parent non-agresseur est associé à moins de difficultés psychologiques chez les enfants victimes d'agression sexuelle (Zajac et al., 2015) et serait primordial pour le rétablissement et l'adaptation en cours de thérapie (Bick et al., 2014).

S'il est reconnu que le soutien parental est un facteur-clé pour promouvoir l'adaptation de l'enfant, les études ont aussi révélé que certains facteurs liés au parent, comme la détresse psychologique, pourraient influencer sa capacité à fournir un soutien adapté à son enfant (Daignault et al., 2018). Les résultats d'une étude portant sur les profils des mères d'enfants victimes d'agression sexuelle ont révélé que 13 % des mères montraient des symptômes de stress post-traumatique, 41 % des symptômes dépressifs et plus de 50 % des symptômes de détresse psychologique atteignant le seuil clinique (Cyr et al., 2013). Peu ou pas de soutien parental dû à un haut niveau de détresse psychologique et de symptômes de stress post-traumatique chez les mères d'enfants victimes d'agression sexuelle est associé à plus de symptômes de dépression et de problèmes de comportement chez l'enfant (Yancey & Hansen, 2010). Par ailleurs, des études ont démontré que certaines mères d'enfants victimes d'agression sexuelle réussissent à gérer l'évènement traumatique et offrent un soutien constant à leur enfant (Cyr et al., 2013). Les auteurs réfèrent cette capacité à s'adapter malgré l'adversité ou les évènements stressants de la vie au concept de résilience (Lamond et al., 2008). En conséquence, l'évaluation du niveau de résilience de la mère est nécessaire afin d'établir des plans d'interventions personnalisés auprès des enfants victimes d'agression sexuelle. Toutefois, à notre connaissance, il existe peu de mesures disponibles pour évaluer la résilience chez les adultes.

Un questionnaire autorapporté de plus en plus utilisé dans diverses populations est l'échelle abrégée de 10 items *Connor-Davidson Resilience Scale* (CD-RISC 10; Campbell-Sills & Stein, 2007). Cette échelle a été traduite et validée auprès d'étudiants universitaires (Hébert, Parent et al., 2018), mais n'a jamais été validée auprès d'une population clinique. La présente étude vise à explorer les propriétés psychométriques de la version française du CD-RISC 10 chez une population de mères d'enfants victimes d'agression sexuelle.

Le concept de résilience

Le concept de résilience a émergé suivant l'observation d'individus qui, face à un trauma, présentaient peu de conséquences psychologiques graves (Richardson, 2002). La résilience est généralement définie comme étant le résultat d'une interaction entre des traits personnels et l'adversité (Ahern et al., 2009). Bonanno (2004) la définit comme étant la capacité à garder un bon fonctionnement psychologique et physique et à ressentir des émotions positives malgré un évènement traumatique. Selon d'autres chercheurs, la résilience serait plutôt la combinaison de comportements et de stratégies d'adaptation (« coping strategies ») adéquates face au stress chronique associé aux évènements de la vie (Lamond et al., 2008; Rutter, 1985). Richardson (2002) stipule que la résilience est plutôt une force motivationnelle qui pousse l'individu à la sagesse, l'actualisation de soi et l'altruisme.

Les études empiriques ont, par exemple, montré qu'un score plus élevé de résilience chez des personnes ayant vécu une agression sexuelle à l'enfance serait négativement associé à leurs symptômes de stress post-traumatiques (Connor et al., 2003; Wingo et al., 2010). Une étude menée aux États-Unis auprès d'une population africaine américaine ayant un historique d'agression sexuelle ou de trauma a également révélé que la résilience aurait un effet modérateur sur la sévérité de leurs symptômes dépressifs (Wingo et al., 2010). Aussi, dans une étude menée auprès de 160 adolescentes québécoises victimes d'agression sexuelle, un niveau de résilience élevé était lié à plus de sentiments d'empowerment et une plus grande utilisation de stratégies d'adaptation positive chez ces victimes (Daigneault et al., 2007). Bien que peu d'études aient évalué la résilience des mères d'enfants victimes d'agression sexuelle, une étude a indiqué que la résilience de la mère était associée à un meilleur ajustement psychologique et moins de symptômes de stress post-traumatique chez les enfants victimes (Hébert et al., 2014).

L'échelle de résilience CD-RISC 10

L'échelle de résilience élaborée par Connor et Davidson (2003), constituée de 25 items (CD-RISC), fait partie des quelques instruments mesurant la résilience (Windle et al., 2011). Connor et Davidson (2003) se sont basés sur les travaux de Kobasa (1979), Rutter (1985) et Lyons (1991) pour mesurer la résilience définie ici comme étant la capacité à faire face aux évènements traumatiques. Les 25 items se regroupent en cinq facteurs qui selon Connor et Davidson (2003) définissent la résilience, soit la compétence personnelle, la tolérance des affects, l'acceptation du changement, le sens du contrôle interne et la spiritualité. Toutefois, la constitution multifactorielle du CD-RISC a été contestée par plusieurs études (Burns & Anstey, 2010; Campbell-Sills & Stein, 2007). Considérant les résultats aux analyses factorielles exploratoires et l'impossibilité d'avoir des résultats cohérents en gardant les 25 items, Campbell-Sills et Stein (2007) ont proposé une version plus courte du CD-RISC, en excluant les items qui présentaient de faibles saturations factorielles et ceux qui faisaient partie de facteurs faiblement définis. Les auteurs ont donc conservé 10 items (CD-RISC 10) mesurant principalement la capacité à s'adapter aux traumas (« hardiness ») ou à tolérer les évènements stressants comme le changement, les problèmes personnels, la pression, la maladie, la douleur et l'échec (Campbell-Sills et al., 2009).

Le CD-RISC 10 a déjà été validé en français dans une population non clinique (Hébert, Parent et al., 2018), mais aucune étude n'a à ce jour validé l'instrument dans des populations cliniques spécifiques comme chez les mères d'enfants victimes d'agression sexuelle. Pourtant l'influence de la résilience prend toute son importance lors de l'analyse de son rôle dans des conditions d'adversité. Une seule étude a recensé une version franco-européenne du CD-RISC 10 dans une population clinique. Les auteurs l'ont validée auprès de femmes françaises ayant eu un cancer du sein (n = 122) et d'un groupe contrôle (n = 116) (Scali et al., 2012). Bien qu'ils ne soient pas adaptés à la population franco-canadienne, les résultats de l'étude franco-européenne ont rapporté une association négative entre les scores sur l'échelle CD-RISC 10 et la présence de troubles de santé mentale dans les deux groupes (Scali et al., 2012). De plus, les résultats de cette étude ont confirmé la structure unidimensionnelle de l'échelle CD-RISC 10 et ont montré une bonne consistance interne (α = ,88).

Dans un contexte clinique, où le temps et les ressources sont limités, l'utilisation de la version brève d'un questionnaire serait plus appropriée et plus efficace (Kruyen et al., 2013). Toutefois, il est nécessaire d'explorer davantage les propriétés psychométriques des versions abrégées des instruments de mesure, comme le CD-RISC 10, pour s'assurer de leur fidélité et validité (Kruyen et al., 2013) auprès de populations cliniques, comme les mères d'enfants victimes d'agression sexuelle.

Objectifs. Considérant la nécessité de mesurer le niveau de résilience chez les mères d'enfants victimes d'agression sexuelle à l'aide d'un outil simple et rapide, cette étude vise à évaluer les propriétés psychométriques de la version franco-canadienne de l'échelle de résilience abrégée CD-RISC 10 auprès de cette population. Ensuite, la validité concurrente sera examinée en explorant les liens entre le score sur l'échelle de résilience et ceux des symptômes de stress post-traumatique, de détresse psychologique et du sentiment d'empowerment.

Méthodologie

Participants et procédures

Au total, 361 mères d'enfants victimes d'agression sexuelle ont été recrutées dans quatre différents centres d'intervention du Québec spécialisés en agression sexuelle. Seules les mères non-agresseures étaient invitées à participer. Les mères ont été recrutées selon les critères d'inclusion suivants : 1) être les mères biologiques ou adoptives de leur enfant, 2) avoir un enfant ayant vécu une agression sexuelle, 3) que cet enfant soit âgé de 3 à 12 ans (M = 7,69, $ÉT$ = 2,56), et 4) comprendre le français. Dans cet échantillon, les mères étaient âgées de 20 à 52 ans (M = 34,36, $ÉT$ = 6,19). Parmi ces mères, 63,3 % étaient en couple, 36,6 % étaient célibataires et 0,3 % avaient un statut matrimonial inconnu.

Les mères ont été rencontrées dans des centres d'interventions spécialisés en agression sexuelle. Après avoir été informées de la possibilité de participer à la recherche et après avoir signé de façon libre et éclairé un formulaire de consentement, l'assistante de recherche a expliqué les objectifs, la procédure, les risques et les avantages liés à la participation. Ensuite, chaque mère a rempli le questionnaire de façon individuelle, ou au besoin, avec l'aide d'une assistante de recherche. Ce projet de recherche a été approuvé par le Comité d'éthique de l'Université du Québec à Montréal et du CHU Ste-Justine.

Mesures

Résilience. La version abrégée de l'échelle de résilience de Connor et Davidson (CD-RISC 10) traduite en français (Hébert, Parent et al., 2018) a été utilisée pour mesurer la résilience. Les items évaluent la capacité à s'adapter au changement, à gérer le stress ainsi qu'à atteindre des buts malgré les obstacles et la pression. Cette version a été traduite en français par Hébert, Parent et al. (2018) selon une procédure de traduction inversée (Brislin, 1970; Vallerand, 1989) de l'anglais au français, puis du français à l'anglais. La version franco-canadienne du CD-RISC et du CD-RISC 10 a été approuvée par les auteurs américains. Dans cette version, les 10 items sont répondus sur une échelle Likert à 5 points (0, Pas du tout vrai; 1, Rarement vrai; 2, Quelquefois vrai; 3, Souvent vrai; 4, Vrai la plupart du temps). Le score se situe entre 0 et 40, où un score plus élevé indique un niveau de résilience plus élevé. Les descriptifs des énoncés peuvent être consultés plus bas dans le Tableau 2. En raison du copyright, les énoncés ne peuvent être reproduits intégralement dans ce manuscrit, mais il est possible d'obtenir la version canadienne-française du CD-RISC en contactant les auteurs de la version originale anglaise à l'adresse suivante : http://www.cd-risc.com/index.php.

Pour s'assurer de la validité de concurrente de l'échelle, trois autres instruments de mesure ont été remplis.

Les symptômes de stress post-traumatique. La version francophone (Guay et al., 2002) du *Modified PTSD Symptoms Scale Self-Report* (MPSS-SR; Falsetti et al., 1993) a été utilisée. Cette échelle, contenant 17 items, mesure la fréquence et la sévérité des symptômes de stress post-traumatique. Un exemple d'item est « Avez-vous eu des pensées ou des souvenirs pénibles qui reviennent régulièrement ou intrusifs concernant le dévoilement de l'agression sexuelle de votre enfant? ». La fréquence varie sur une échelle de 0 à 3 (0, Pas du tout; 1, De temps en temps; 2, La moitié du temps; 3, Presque toujours) et la sévérité varie de A à E (A, Pas du tout; B, Un peu; C, Modérément; D, Beaucoup; E, Extrêmement). Ce sont uniquement les participants ayant présenté le symptôme (au minimum de temps en temps) qui répondaient à la sévérité. Les scores varient de 0 à 119 par l'addition de la sévérité (0-68) à la fréquence (0-51). La consistance interne de cet instrument a été mesurée à l'aide du coefficient α de Cronbach. Les résultats indiquent un niveau de consistance interne élevée (α = ,97) dans le présent échantillon.

La détresse psychologique parentale. L'Indice de détresse psychologique de l'Enquête Santé Québec (IDPESQ; Préville et al., 1992) a été utilisée. Cet instrument mesure la détresse psychologique, l'anxiété, l'irritabilité, la dépression et les problèmes cognitifs des mères d'enfants victimes d'agression sexuelle. Un exemple d'item est « Vous êtes-vous sentie désespérée en pensant à l'avenir? ». Les 14 items sont répondus sur une échelle Likert à 4 points (0, Jamais; 1, De temps en temps; 2, Assez souvent; 3, Très souvent), et les scores totaux se situent entre 0 et 100, où un score élevé signifie plus de détresse psychologique. Dans la présente étude, la consistance interne de l'IDP a été mesurée à l'aide du coefficient alpha de Cronbach et montre un coefficient de ,76.

Le sentiment d'empowerment. La version francophone (Hébert & Parent, 1999) du *Family Empowerment Scale* (FES; Koren et al., 1992) a été complétée par les participantes. L'instrument mesure le sentiment d'empowerment et d'efficacité personnelle. Un exemple d'item est « Je pense que je suis capable de régler les problèmes qui peuvent survenir avec mon enfant ». Les 12 items sont répondus sur une échelle Likert à 5 points (1, Fortement en désaccord; 2, En désaccord; 3, Ni en désaccord ni en accord; 4, En accord; 5, Fortement en accord). Un score total se situant entre 5 et 25 peut être calculé, où un score plus élevé indique plus de sentiment d'empowerment. La consistance interne du FES montre un coefficient alpha de Cronbach de ,87.

Analyses statistiques

Pour valider le CD-RISC 10, une analyse factorielle confirmatoire a été réalisée à l'aide du logiciel Mplus (Muthén & Muthén, 1998) afin de déterminer si les données obtenues auprès de cet échantillon correspondaient au modèle factoriel du CD-RISC 10. La qualité du modèle a été jugée en considérant les indices d'ajustement suivants : le Khi carré normé (X^2/df), le *Comparative fit index* (CFI), le *Tucker-Lewis index* (TLI) et le *root mean square error of approximation* (RMSEA). Le Khi carré normé, une mesure absolue de la qualité d'ajustement, se calcule par la division du nombre de degrés de liberté au résultat du test du Khi carré. Le résultat doit être inférieur ou égal à 3 pour témoigner d'un bon ajustement. Le CFI et le TLI sont des mesures d'ajustement incrémental se situant entre 0 et 1 qui doivent être supérieures à ,95 pour témoigner d'un très bon ajustement (Hu & Bentler, 1999; Kline, 2005). Le RMSEA est une mesure absolue d'ajustement qui repose sur l'analyse des résidus (Hu & Bentler, 1999; Kline, 2005). Donc, les plus petites valeurs inférieures à ,80 témoignent d'un meilleur ajustement (Hu & Bentler, 1999; Kline, 2005). Ensuite, des analyses de fidélité, à l'aide du coefficient de Cronbach, du coefficient H et de l'oméga de McDonald, ont été effectuées pour évaluer la consistance interne. Finalement, la validité concurrente entre la résilience de la mère, ses symptômes de stress post-

traumatiques, son niveau de détresse psychologique et son sentiment d'empowerment a aussi été examinée par des corrélations de Pearson.

Résultats

Analyses descriptives

La moyenne du score total sur l'échelle CD-RISC 10 est de 27,63 (*ÉT* = 6,92). Aucun effet « plancher » ni « plafond » n'a été observé sur le score global avec moins de 1 % de l'échantillon obtenant le score minimum (0) et moins de 3 % le score maximum (40). En ce qui concerne les autres échelles de mesure, 62 % des participantes obtiennent un score dépassant le seuil clinique de détresse psychologique (*M* = 39,36; *ÉT* = 25,27) et 25,8 % un score qualifiant le seuil clinique pour les symptômes de stress post-traumatique (*M* = 33,24; *ÉT* = 26,7). De plus, les mères ayant un niveau moyen de détresse psychologique dépassant le seuil clinique (*M* = 26,20; *ÉT* = 7,07) avaient un niveau de résilience significativement plus bas que les mères rapportant de la détresse psychologique sous le seuil clinique (*M* = 29,95; *ÉT* = 6,02), $t(356) = 5{,}12$, $p < {,}01$, $d = {,}89$. Aussi, les mères ayant des symptômes de stress post-traumatique au-dessus du seuil clinique (*M* = 25,42; *ÉT* = 6,96) avaient un niveau de résilience significativement plus faible que les mères avec des symptômes de stress post-traumatique sous le seuil clinique (*M* = 28,49; *ÉT* = 6,65), $t(351) = 3{,}77$, $p < {,}01$, $d = {,}89$. Pour l'échelle FES mesurant le sentiment d'empowerment, la moyenne du score total est de 21,93 (*ÉT* = 2,61).

Analyse factorielle confirmatoire

Une analyse factorielle confirmatoire a été conduite à l'aide du logiciel Mplus 8.1 (Muthén & Muthén, 1998) pour vérifier la correspondance entre les données de l'échantillon et la structure unidimensionnelle du CD-RISC 10. Des structures à plus d'un facteur non pas été envisagées puisque des études antérieures démontrent l'unifactorialité du CD-RISC 10 (Hébert, Parent et al., 2018; Scali et al., 2012). Les indices examinés afin d'évaluer la correspondance entre les modèles théorique et observé suggèrent un ajustement acceptable du modèle à un facteur (2/df = 2,97, CFI = ,94, TLI = ,93, RMSEA = ,07, 90 % CI [,06; ,09] comparativement aux valeurs attendues, soit X^2/df ≤ 3, du CFI ≥ ,95, de TLI ≥ ,95 et du RMSEA ≤ ,06 (Hu & Bentler, 1999; Kline, 2005). Tous les items présentent une saturation significative et supérieure à ,40 comme présenté dans le Tableau 1. Ce modèle explique 62,49 % de la variance totale.

Tableau 1. Analyse factorielle confirmatoire unidimensionnelle ($n = 361$)

Items	F1	Erreur	R^2
1. Capacité de s'adapter aux changements	,55	,04	,30
2. Gérer tout ce qui arrive.	,74	,03	,55
3. Tenter de voir le coté humoristique des choses face aux problèmes.	,40	,05	,16
4. Gérer le stress rend plus fort·e.	,69	,03	,48
5. « Rebondir » après différentes épreuves.	,67	,03	,45
6. Atteindre des objectifs, malgré les obstacles.	,72	,03	,51
7. Sous la pression, rester concentré·e.	,58	,04	,33
8. L'échec ne décourage pas facilement.	,54	,04	,29
9. Se considérer comme une personne forte.	,66	,03	,44
10. Capacité de gérer les émotions désagréables.	,70	,03	,50
Variance expliquée (%)	62,49		

Note. χ^2/df = 2,97, CFI = ,94, TLI = ,93, RMSEA = ,07, 90% CI [,06; ,09].

Fidélité

La consistance interne de l'échelle CD-RISC 10 a été mesurée à l'aide du calcul de l'alpha de Cronbach, du coefficient H et celui de l'oméga ordinal de McDonald. Dans la présente étude, la consistance interne était élevée pour l'ensemble des indices de fidélité (α = ,86; H = ,90; ω = ,89). Le Tableau 2 présente les corrélations inter-items et révèle une forte homogénéité entre les items du CD-RISC 10.

Tableau 2. Moyennes et corrélations inter-items de la version brève de l'échelle de résilience Connor-Davidson (CD-RISC)

Items	*M*	*ÉT*	1	2	3	4	5	6	7	8	9	10
1	3,24	0,89	–	,49	,27	,35	,35	,39	,32	,36	,33	,31
2	2,79	0,99		–	,39	,54	,44	,51	,41	,35	,48	,53
3	2,08	1,23			–	,36	,23	,23	,10	,22	,20	,30
4	2,51	1,19				–	,46	,48	,39	,35	,42	,51
5	3,10	0,10					–	,57	,37	,36	,46	,48
6	3,16	0,89						–	,46	,39	,49	,44
7	2,50	1,05							–	,38	,34	,44
8	2,50	1,10								–	,40	,36
9	3,07	1,04									–	,53
10	2,67	1,01										–

Note. Toutes les corrélations sont significatives à $p < ,05$.

Validité concurrente

La validité concurrente entre le score de résilience et les symptômes de stress post-traumatique, la détresse psychologique et le sentiment d'empowerment a été vérifiée à l'aide d'analyses de corrélation. Les coefficients de corrélations de Pearson ont été calculés et les corrélations > ,50 ont été jugées fortes, celles entre ,30 et ,50 ont été considérées modérées et celles < ,30 ont été jugées faibles (Cohen, 1988).

Comme attendu, les scores sur l'échelle CD-RISC 10 corrèle modérément et négativement avec les scores de l'échelle de détresse psychologique, $r = -,34$, $p < ,01$. Aussi, il y a une corrélation faible et négative entre les scores de l'échelle de résilience et les scores de l'échelle symptômes de stress post-traumatique, $r = -,24$, $p < ,01$. Finalement, les scores sur l'échelle de résilience corrèlent faiblement et positivement avec ceux de l'échelle du sentiment d'empowerment, $r = ,29$, $p < ,01$.

Discussion

L'objectif de cette étude était de valider la version franco-canadienne de l'échelle de résilience CD-RISC 10 auprès de mères d'enfants victimes d'agression sexuelle. Étant donné que la résilience se développe généralement dans l'adversité, l'échelle CD-RISC 10 doit pouvoir évaluer adéquatement la résilience face à un évènement traumatique, et donc, être validée auprès d'une population clinique comme celle des mères dont les enfants ont dévoilé une agression sexuelle. La moyenne du score total sur l'échelle CD-RISC 10 obtenue dans le présent échantillon est semblable à celle obtenue dans l'échantillon de Campbell-Sills et Stein (2007) et celle de Hébert, Parent et al. (2018). Tel que postulé par Campbell-Sills et Stein (2007), la structure unifactorielle de CD-RISC 10 est soutenue par la présente étude, avec une saturation factorielle supérieure à 40 % pour chacun des items. Les présents résultats sont similaires à ceux des études antérieures (Campbell-Sills & Stein, 2007; Hébert, Parent et al., 2018) qui rapportent des saturations supérieures à 40 % et 50 %. La variance expliquée (62 %) est toutefois supérieure à celle de l'étude de Hébert, Parent et al. (2018) (38 %). L'échelle CD-RISC 10 présente un score moyen comparable aux autres études et une bonne consistance interne comparable à celles de Campbell-Sills et Stein (2007) et de Hébert, Parent et al. (2018). Ainsi, le CD-RISC 10 présente de bonnes qualités psychométriques et semble être un moyen adapté et rapide pour mesurer la résilience chez une population clinique. En effet, étant donné que les ressources de temps sont souvent limitées en milieu clinique, un outil bref et performant devrait être priorisé pour l'évaluation psychologique (Kruyen et al., 2013).

Afin de vérifier la validité de l'échelle, nous avons également exploré les liens entre le score de résilience et celui de différentes échelles mesurant la détresse psychologique, les symptômes de stress post-traumatique et le

sentiment d'empowerment. Comme attendu la résilience est négativement associée à la détresse psychologique et aux symptômes de stress post-traumatique. C'est-à-dire que les mères rapportant plus de résilience ressentaient moins de détresse psychologique et de symptômes de stress post-traumatique en lien avec l'agression sexuelle de leur enfant. Ces résultats sont comparables avec les études sur la résilience qui suggèrent qu'un score élevé sur l'échelle de résilience serait associé à moins de symptômes post-traumatiques (Connor et al., 2003; Wingo et al., 2010). Ceci peut s'expliquer par le fait qu'une personne résiliente possède une plus grande capacité à identifier et à utiliser ses propres ressources et celles de son environnement pour faire face aux difficultés liées au trauma (Connor et al., 2003; Wingo et al., 2010). Comme postulé par Connor et Davidson (2003), une personne résiliente aura plus de sentiment de compétence personnelle, de tolérance des affects, d'acceptation du changement et de sens du contrôle interne. Ainsi, une mère résiliente, faisant face à un évènement traumatique, tel que l'agression sexuelle de son enfant, pourrait se sentir plus apte à aider son enfant, à composer avec les affects négatifs et les différents changements qui découleront de cet évènement. Dans la présente étude, la résilience était liée à plus de sentiments d'empowerment, ce qui concorde avec les études indiquant que les personnes résilientes rapportent plus de sentiment d'efficacité personnelle que les personnes non résilientes et qu'elles utilisent des stratégies d'adaptation plus actives, c'est-à-dire des stratégies d'approche face à l'agression sexuelle (Cyr et al., 2013; Daigneault et al., 2007). À titre d'exemple, l'étude de Cyr et al. (2013) chez les mères d'enfants victimes d'agression sexuelle a révélé que les mères résilientes étaient moins enclines à ressentir de la détresse psychologique et des symptômes de stress post-traumatiques et s'adaptaient plus facilement à l'agression sexuelle de leur enfant que les mères non résilientes. D'autres facteurs peuvent s'ajouter à la résilience et jouer un rôle sur les symptômes de la mère. En effet, le soutien social, la réévaluation positive et l'autocompassion seraient des médiateurs de la relation entre la résilience des mères d'enfants victimes d'agression sexuelle et leur détresse psychologique (McGillivray et al., 2018). Une mère résiliente ayant un haut niveau de ces trois facteurs aurait moins de détresse psychologique qu'une mère non résiliente ou une mère résiliente ayant un faible niveau de soutien social, d'autocompassion et de réévaluation positive. Le sentiment d'efficacité personnelle et les émotions positives envers soi seraient donc liés à une meilleure adaptation psychologique face à l'agression sexuelle de son enfant. Promouvoir le développement de ces facteurs personnels et de l'adaptation positive dans le cadre d'interventions pourrait être bénéfique chez les mères, mais aussi chez leur enfant. Chez ces derniers, le développement de la résilience pourrait contribuer à une diminution des symptômes de stress post-traumatique et des problèmes de comportement, mais aussi à un meilleur rétablissement suivant l'agression sexuelle.

Limites de l'étude

À notre connaissance, cette étude est la seule à avoir validé la version franco-canadienne de cet outil dans un échantillon de mère d'enfants victimes d'agression sexuelle. Étant donné que cette population présente des caractéristiques particulières telles qu'une forte présence de détresse psychologique, plusieurs symptômes de stress post-traumatiques ainsi que plus de symptômes de dépression (Cyr et al., 2013), la présente étude contribue à l'exploration de la résilience et à la découverte de ses vertus en tant que facteur de protection. Cette étude doit cependant être considérée au regard des certaines limites. D'abord, le CD-RISC 10 mesure les caractéristiques individuelles associées à la résilience et non l'influence de l'environnement sur celle-ci (Békaert et al., 2011). En effet, la résilience est une capacité qui interagit avec des facteurs environnementaux comme le soutien parental, le soutien des pairs et la culture (par. ex., les croyances et les valeurs) qui ne sont pas pris en compte dans la présente étude (Ungar, 2013). Aussi, l'échantillon de la présente étude, composé de parents d'enfants victimes d'agression sexuelle, est spécifique et n'est pas nécessairement représentatif d'autres populations (p. ex., parents d'enfants témoins de violence conjugale ou confrontés à d'autres types d'adversité), ce qui limite la généralisation des résultats. De plus, tous les instruments de mesure sont autorapportés et font partie du même questionnaire, ils peuvent donc être sujets au biais de désirabilité sociale et à l'influence de la covariation entre les instruments. L'échantillon n'étant composé que de mères, il n'est pas nécessairement représentatif de la réalité des pères d'enfants victimes d'agression sexuelle. Des recherches futures devront explorer la résilience chez les pères ainsi que son lien avec les symptômes de détresse psychologique et de stress post-traumatique puisque ceux-ci peuvent aussi être une grande source de soutien pour l'enfant (Hébert, Daspe, & Cyr, 2018). Ainsi, une validation de la version franco-canadienne de l'échelle CD-RISC 10 avec une population incluant les deux parents d'enfants victimes d'agression sexuelle pourrait contribuer à confirmer les qualités psychométriques de l'échelle. Finalement, des recherches futures devraient aussi explorer la fiabilité temporelle de l'échelle CD-RISC 10 dans un devis longitudinal.

Implications et conclusion

Comme le montre les résultats, l'échelle CD-RISC 10 présente de bonnes propriétés psychométriques et serait donc un outil rapide et adapté pour l'évaluation des mères faisant face au dévoilement de l'agression sexuelle d'un enfant. De plus, les données de la présente étude concordent avec le modèle unifactoriel de CD-RISC 10, ce qui montre que l'instrument évalue adéquatement la résilience chez les mères d'enfants victimes d'agression sexuelle. Cette échelle permettra d'avoir une meilleure compréhension de l'adaptation positive de certaines mères, d'identifier les mères ayant besoin de plus de ressources et de pouvoir évaluer l'effet d'une intervention sur le niveau de résilience. La présente étude offre un soutien à l'utilisation de l'échelle CD-RISC 10 auprès des mères d'enfants victimes d'agression sexuelle.

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Conflit d'intérêt

Les auteures ne déclarent aucun conflit d'intérêt.

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A conceptual model of the intergenerational transmission of emotion dysregulation in mothers with a history of childhood maltreatment

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Abstract

Objectives: Adults with a history of childhood maltreatment report problems with emotion regulation (ER) and parenting, which can contribute to maladaptive outcomes in offspring. The following narrative review consists of a theoretical and empirical synthesis of the literature examining child maltreatment, emotion regulation, and parenting, with an emphasis on parental emotion socialization.

Method: Building upon the literature contained in the review, we developed a novel conceptual model that elucidates some of the mechanisms involved in the intergenerational transmission of emotion dysregulation among mothers with a history of childhood maltreatment. Taking into account risk and protective factors (e.g., socio-economic status, polyvictimization, teenage motherhood, access to social supports), our conceptual model highlights both direct (e.g., social learning) and indirect (e.g., ER difficulties) mechanisms through which child maltreatment contributes to problems with parental emotion socialization and ER difficulties in the next generation.

Implications: Directions for future research and implications for intervention will be discussed with an emphasis on preventing the continuity of maladaptive parenting by promoting the development of parents' ER abilities in a trauma-informed, resilience-focused framework.

Keywords: Intergenerational transmission; emotion socialization; parent-child relationships; childhood maltreatment; emotion dysregulation.

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Introduction

Child maltreatment is defined as any act of commission or omission by a parent or caregiver that results in harm, potential for harm, or threat of harm to a child under the age of 18. The most commonly recognized forms of child maltreatment include physical abuse, sexual abuse, emotional maltreatment, and neglect (Leeb et al., 2008). In Ontario, which is the most populated province in Canada (Statistics Canada, 2019), approximately 6.29% of children were involved in maltreatment-related investigations in 2018, with over 148,000 investigations occurring that year (Fallon et al., 2020). Of these investigations, 26% were substantiated[1] for reasons of neglect (21%), physical abuse (19%), emotional maltreatment (12%), and sexual abuse (3%). Furthermore, although reports of childhood physical (26%) and sexual (8%) abuse are prevalent among Canadian adults, 93% of those surveyed indicated that they did not report the abuse to police or child protective services before age 15 and the majority (67%) indicated that they never reported the abuse to anyone (Burczycka, 2017). As such, the prevalence of child maltreatment in Canada is likely under-estimated.

The impact of child maltreatment on emotion regulation

The negative impact of child maltreatment on mental health is well-documented as numerous studies have identified a link between abusive childhood experiences and adult psychopathology including depression, anxiety, posttraumatic stress, dissociation, substance use, and personality disorders (see Kessler et al., 2010 and Weich et al., 2009 for reviews). To explain the association between child maltreatment and these adverse outcomes, Cloitre, Cohen, and Koenen (2011) proposed the *Resource Loss Model of Childhood Abuse Trauma* wherein the short- and long-term effects of child maltreatment can be understood as a consequence of the resources that are lost when abuse or neglect is perpetrated by a caregiver. According to this model, resource losses – such as the loss of a healthy attachment relationship with one's primary caregiver – can compromise the attainment of developmental tasks that are intrinsic to childhood, resulting in impairments that accumulate into adulthood. The acquisition of ER is a key developmental task in childhood (Eisenberg & Morris, 2002) and the ability to regulate emotions is developed mainly through interactions with attachment figures who are typically the child's primary caregivers (Schore & Schore, 2008).

Shifting away from Bowlby's (1969) and Ainsworth's (1969) descriptions of attachment theory, which originated in the era of behaviourism, Schore and Schore (2008) proposed that modern attachment theory should be conceptualized a theory of affect regulation. In this framework, the primary caregiver must be attuned to dynamic shifts in the infant's internal states and appraise non-verbal expressions of the infant's arousal. In turn, the caregiver's level of sensitivity and responsiveness to these cues mediates the dyadic regulation of emotions and sets the foundation for a secure attachment relationship. The "good-enough caregiver" who has become mis-attuned can engage in interactive repair and act as a resource for emotional co-regulation if they are able to re-attune in a timely and consistent manner. However, when the primary caregiver is abusive or neglectful, circumstances of maltreatment disrupt this attachment relationship because the caregiver, who traditionally acts as a resource for safety and co-regulation is also a source of danger and dysregulation, which can lead to insecure, disorganized attachment (Cloitre, Cohen, & Koenen, 2011; Schore & Schore, 2008). In cases of child maltreatment, or *complex trauma*, the trauma is chronic, interpersonal, and embedded in the child's caregiving system (van der Kolk, 1996; van der Kolk, 2005). The relational stress engendered by this trauma can compromise the experience-dependent maturation of developing brain areas that are critical to ER (Schore & Schore, 2008). Further, emotional guidance from a caregiver who is neglectful, physically, or sexually abusive is often absent, irregular, or deviant (Cloitre, Cohen, & Koenen, 2011). Thus, in the absence of a healthy attachment relationship with another caregiver, a child who is maltreated is not provided with the emotional attunement or scaffolding that would enable them to regulate their arousal (Cicchetti & Toth, 2005; Kim & Cicchetti, 2010), thereby disrupting the development of self-regulation.

Child maltreatment, emotion regulation, and psychopathology in youth. Child maltreatment has been associated with ER difficulties in childhood including emotional lability (Shipman et al., 2000; 2007), lower levels of emotional understanding, empathy, and emotional self-awareness (Perlman et al., 2008; Shipman et al., 2000; 2005), dysregulated emotional expressions (Maughan & Cicchetti, 2002; Shipman & Zeman, 2001), and difficulties identifying negative emotions (Pollak et al., 2000). However, there seems to be an exception amongst physically abused children, who show enhancements in the ability to detect angry faces (Ardizzi et al., 2015; Masten et. al., 2008). Although this acuity might be advantageous in environments that require children to be vigilant toward potential threats, attentional

[1] The remaining 45% were substantiated for exposure to intimate partner violence, which was not included in the present review.

biases toward angry faces have been linked to increases in negative affect and aggressive behaviours that put children at risk for externalizing problems (Shackman & Pollack, 2014). Emotion dysregulation has been identified as a predictor of externalizing and internalizing problems in maltreated children (Muller et al., 2013) and mediates the relationship between child maltreatment and psychopathology in childhood (Alink et al., 2009; Kim & Cicchetti, 2010) and adolescence (Heleniak et al., 2016; Moretti & Craig, 2013). Thus, child maltreatment appears to put youth at risk for ER difficulties that contribute to the development of psychopathology.

Child maltreatment, emotion regulation, and psychopathology in adults. In addition to studies focusing on youth, a growing body of literature explores the long-term impacts of child maltreatment on adult ER. For example, women who reported sexual, physical, or emotional abuse in childhood reported higher levels of ER difficulties (Burns et al., 2010), such as experiential avoidance and emotional non-acceptance, compared to those who experienced low levels of abuse or no abuse (Gratz et al., 2007). Adults with a history of child maltreatment also exhibit generalized dysregulation in the biological systems associated with stress response (Heim et al., 2000; van Voorhees & Scarpa, 2004) as well as deficits in the coordination of cognitive and affective brain circuits that underlie ER (Caldwell et al., 2014). Specifically, early abuse can result in sensitization of the hypothalamic-pituitary-adrenal (HPA) axis, which can increase one's vulnerability to the adverse effects of stress and contribute to a predisposition towards psychopathology (Heim et al., 2000; van Voorhees & Scarpa, 2004). Similarly, the ability to regulate stress and negative affect is contingent upon flexible communication between the prefrontal cortex and limbic system, which appears to be compromised in adults who are maltreated as children (Caldwell et al., 2014).

Relative to other types of trauma, the consequences of child maltreatment are thought to be particularly detrimental to emotional functioning because of its early onset and interpersonal nature (see Freyd, 1996 for *Betrayal Trauma Theory* and van der Kolk, 2005 for *Developmental Trauma Disorder*). Compared to survivors of non-interpersonal traumas and traumas that were perpetrated in adulthood, adults who experienced early-onset interpersonal traumas reported more problems tolerating and managing negative emotions, a lack of emotional clarity, and had more troubles overcoming negative emotions that interfered with goal-directed behaviour (Briere & Rickards, 2007; Ehring & Quack, 2010). Furthermore, higher levels of exposure to betrayal traumas (i.e., traumas perpetrated by someone the victim was close with) predicted greater levels of alexithymia, anxiety, and depression in undergraduate students (Goldsmith et al., 2012). Thus, the early onset of child maltreatment, as well as the feelings of betrayal that are engendered by this type of trauma, can disrupt emotional development in ways that increase the risk of psychopathology in adulthood.

In support of this notion, ER difficulties have consistently been identified as a mediator in the relationship between child maltreatment and adult mental health problems including posttraumatic stress disorder (PTSD; Barlow et al., 2017; Burns et al., 2010), depression (Crow et al., 2014; Hopfinger et al., 2016), borderline personality disorder (Gratz et al., 2008), anxiety (Huh et al., 2017), and psychological distress more broadly (Rosenthal et al., 2005). There is also research that suggests that the indirect effects of ER difficulties on psychopathology in adulthood may be specific to high betrayal traumas (Goldsmith et al., 2013). These findings coincide with the increasing recognition that ER is a transdiagnostic factor in psychopathology (Aldao et al., 2010; Gross & Jazaieri, 2014) as well as advances in attachment theory and affective neuroscience, which suggest that early abuse can have long-lasting impacts on the developmental trajectory of the right brain (Schore, 2002). Indeed, studies examining brain regions associated with emotional processing suggest that adults with a history of child maltreatment display altered patterns of reactivity and attentional biases toward negative facial expressions such as fear, anger, and sadness (Dannlowski et al., 2012; 2013; Gibb et al., 2009; van den Berg et al., 2019) in the absence of, and when controlling for, symptoms of psychopathology. Similarly, the relationships between child maltreatment, ER, and functional impairment appear robust, even when controlling for symptoms of PTSD (Ehring & Quack, 2010; Cloitre et al., 2005).

Protective factors. Despite the well-established relationships between child maltreatment, ER difficulties, and psychopathology, a history of child maltreatment does not guarantee that people will experience mental health problems. Indeed, many abused individuals exhibit minimal levels of impairment as adults (Collishaw et al., 2007; DuMont et al., 2007) and can be classified as resilient. Evidence suggests that a secure pattern of relatedness with one's caregiver (Alink et al., 2009), the involvement of at least one supportive parent (Kooiman et al., 2004) or partner (DuMont et al., 2007), and the quality of one's peer and intimate relationships in adulthood (Collishaw et al., 2007), may buffer against the development of emotional and psychological difficulties in survivors of child maltreatment. As such, protective factors must also be considered when attempting to elucidate the effects of child maltreatment on ER in

adulthood, as well as the effects of child maltreatment on parenting, which will be elaborated upon in the following section.

Child maltreatment and parenting problems

Concomitant with an increased risk for psychopathology and elevated rates of ER difficulties, another challenge faced by adult survivors of child maltreatment are difficulties in the parental role. In a systematic review of 12 studies that encompassed over 45,000 mother-child dyads, Plant and colleagues (2018) found strong evidence for a relationship between mothers' child maltreatment history and emotional and behavioural difficulties in offspring. Further, maternal psychological distress and poor parenting were identified as key mechanisms that explained these associations (Plant et al., 2018).

Numerous studies have identified links between child maltreatment and parenting problems including lower perceived competence (Bailey et al., 2012; Caldwell et al., 2011; Fitzgerald et al., 2005; Schuetze & Eiden, 2005), reductions in maternal sensitivity, responsivity, and empathy (Bert et al., 2009; Fuchs et al., 2015; Lyons-Ruth & Block, 1996; Pereira et al., 2012; Zvara, Meltzer-Brody, et al., 2017), increased use of harsh or physically punitive discipline (DiLillo et al., 2000; Schuetze & Eiden, 2005), and higher levels of hostile or intrusive behaviours (Bailey et al., 2012; Lyons-Ruth & Block, 1996; Moehler et al., 2007). Parents who were maltreated as children also exhibit inconsistent parenting behaviours (Collin-Vezina et al., 2005; Driscoll & Easterbrooks, 2007), and report higher levels of parenting stress (Bai & Han, 2016; Pereira et al., 2012).

However, not every study supports the associations between child maltreatment and parenting problems. For example, despite lower levels of self-reported parenting competence, some observational studies have shown that interactive behaviours are not always compromised when there is a maternal history of child maltreatment (e.g., Bailey et al., 2012; Fitzgerald et al., 2005; Sexton et al., 2017). When considering studies that have identified links between child maltreatment and poor parenting, the vast majority are composed of samples characterized by other risk factors, including participants who are younger in maternal age or with high rates of poverty and psychopathology (see Vaillancourt et al., 2017 for review). In contrast, studies that have not reproduced these associations tend to be composed of non-clinical samples (e.g., Fitzgerald et al., 2005; Sexton et al., 2017).

The impact of cumulative trauma and revictimization. Notwithstanding some contradictory findings, three systematic reviews have provided tentative support for the relationship between child maltreatment and later parenting problems (Hughes & Cossar, 2016; Hugill et al., 2017; Vaillancourt et al., 2017). Longitudinal studies also support these associations and highlight the importance of considering the cumulative impact of child maltreatment on parenting. For example, a study of 1, 994 mothers followed from pregnancy until their children were 3 years of age, found that cumulative childhood adversity was positively associated with maternal mental health problems and parenting concerns, as well as mothers' use of maladaptive coping strategies (McDonald et al., 2019). In addition, Banyard and colleagues (2003) found that higher rates of trauma exposure in childhood and adulthood were associated with lower parenting satisfaction and maladaptive parenting as evidenced by higher rates of physical punishment, child neglect, and protective services reports. Interestingly, the traumas that made the most significant contribution to negative parenting were ones that had occurred in adulthood, which the authors interpreted in light of the high rates of revictimization that are prevalent amongst survivors of child maltreatment (Arias, 2004; Desai et al., 2002). Banyard and colleagues (2003) suggested that a history of child maltreatment puts individuals at risk for experiencing additional traumas (e.g., intimate partner violence), which have a more proximal effect on parenting. In support of this notion, the experience of cumulative interpersonal traumas in childhood and adulthood has been associated with more negative parenting practices, even when controlling for demographic and diagnostic variables (Cohen et al., 2008) and when results are compared to individuals with no history of victimization or a history of victimization that occurred exclusively in childhood (Dubowitz et al., 2001). Thus, experiences of adult revictimization may exacerbate, or even account for, parenting difficulties amongst survivors of child maltreatment.

Protective factors. Although childhood trauma and revictimization may have a negative impact on parenting, engagement in resilient or positive parenting is still possible in spite of one's maltreatment history. For example, in a subsample of survivors who had experienced traumatic events in childhood and adulthood, greater connection to social supports and the ability to engage in self-care were protective factors associated with lower levels of parenting problems (Banyard et al., 2003). Similarly, parents who were able to break intergenerational cycles of maltreatment reported using various strategies to heal from their traumas including finding meaning in the aftermath of their traumatic experiences, engaging in conscious efforts to "parent differently", and relying on social, spiritual, or

psychological supports (Chamberlain et al., 2019). They were also less likely to live with their families of origin and rely on their own mothers for emotional support (Easterbrooks et al., 2011). Consequently, breaking the cycle of maladaptive parenting may also be contingent upon the ability to disengage from people or contexts that perpetuate emotional distress and negative parenting behaviours.

Child maltreatment history and parenting - The role of emotion regulation

Amongst maltreated parents who perpetuate cycles of maladaptive parenting, extant literature suggests that a maternal history of abuse may have indirect effects on caregiving through its effect on mediating variables such as parental stress and depressive symptoms (see Vaillancourt et al., 2017 for review). Compared to mothers with no abuse histories, mothers who have experienced child maltreatment are at an increased risk for stress-related psychopathologies that impact parenting including post-partum depression (Beeghly et al., 2003; Talmon et al., 2019), anxiety (Buist et al., 2011; Madigan et al., 2014), PTSD (Muzik, Bocknek, et al., 2013; Muzik et al., 2016), and dissociation (Marysko et al., 2010). Additionally, borderline personality disorder and substance use problems, which are both associated with a history of child maltreatment (Elliot et al., 2014; Huang et al., 2011), have been linked to poor parenting (Florange & Herpertz, 2019; Locke & Newcomb, 2004).

The associations between child maltreatment and parenting problems may also be attributable to parental ER difficulties (Bailey et al., 2012; Ehrensaft et al., 2015). The ability to regulate emotions has been recognized as a crucial component of effective parenting since Dix (1991) proposed the *Affective Organization of Parenting* model. In this model, the processes parents use to understand and regulate emotions are of paramount importance because the parent's ability to engage in self-regulation is thought to facilitate the modulation of their own negative arousal, which in turn, enhances the ability to engage in sensitive and responsive parenting behaviours. Several studies have found that mothers who are able to regulate their emotions are better equipped to deal with stressors that arise in the context of parenting, thereby enabling them to engage in more supportive response behaviours (see Crandall et al., 2015 for review). In contrast, when parents experience emotions as overwhelming, their arousal is thought to undermine effective parenting and impair parent-child interactions (Dix, 1991). For example, mothers who displayed increased amygdala activation in response to their infant's crying displayed lower levels of maternal sensitivity (Firk et al., 2018). Similarly, difficulties regulating stress (Nyström-Hansen et al., 2019), deficits in emotional face processing (Choi et al., 2017; Thompson-Booth et al., 2014), and structural and functional alterations in brain regions associated with mentalizing and emotional empathy (Mielke et al., 2016; Neukel et al., 2018), have been associated with less sensitive parenting behaviours amongst mothers with a history of child maltreatment.

With respect to more specific parenting behaviours, McCullough and colleagues (2014) found that mothers who scored higher on psychological control, hostility, and unavailability, reported higher levels of child maltreatment than parents belonging to the at-risk or positive parenting groups. Moreover, mothers in the negative parenting group were characterized by lower levels of ER and higher levels of anger compared to the other two groups. Parallel findings were produced by Harel and Finzi-Dottan (2018), who found that retrospective reports of child maltreatment were associated with lower levels of ER, which in turn, predicted more negative parenting practices. Taken together, the relationship between child maltreatment and parenting may be explained by maternal ER difficulties. As such, there is a need to identify other risk factors that could exacerbate parents' emotion dysregulation.

Teenage motherhood and demographic risk factors. Given the relationships between child maltreatment, ER, and parenting, it is important to consider the additional risks conferred by teenage motherhood. A history of child maltreatment has been consistently linked to teenage motherhood (Bert et al., 2009; Garwood et al., 2015; Hillis et al., 2004; Trickett et al., 2011), which in turn, has been associated with demographic risk factors (e.g., single parenthood, lower educational attainment, family poverty) that predict problematic parenting and adverse outcomes in children (see Letourneau et al., 2013 and Serbin & Karp, 2004 for reviews).

In addition to heightened socioeconomic risk, teenage motherhood has also been associated with post-partum depression and anxiety (Madigan et al., 2014), psychological distress (Mollborn & Morningstar, 2009), and parenting stress (Spencer et al., 2002). The finding that teen mothers experience more difficulties in these domains is not surprising, since the period of adolescence is already characterized by increases in negative emotionality (Larson et al., 2002), elevated rates of psychopathology (Ahmed, et al., 2015), and the reorganization of the neurocircuitry involved in ER (Casey et al., 2011; Steinberg, 2005). Further, given that brain regions responsible for cognitive control develop more slowly than those that drive emotional reactivity, adolescents may experience more difficulty regulating their emotions in the presence of salient emotional cues (Casey et al., 2011). These findings suggest that maltreated

women who become teenage mothers may experience more environmental and developmental stressors that make it challenging to regulate their emotions, which in turn, could compromise their ability to engage in sensitive parenting.

In support of this notion, McCullough and colleagues (2015) found that mothers who reported a history of emotional maltreatment in childhood were at an increased risk for engaging in unsupportive parenting behaviours, particularly when they were younger at childbirth (i.e., average age of childbirth = 17.5) and had moderate to high levels of emotion dysregulation. However, given that their assessment was limited to parental psychological control, hostility, and unavailability, more research is needed to investigate other dimensions of unsupportive parenting that may have a more proximal influence on children's emotional development.

Emotion socialization – An understudied parenting behaviour in maltreatment survivors

Despite a substantial body of literature demonstrating the associations between child maltreatment, ER, and parenting difficulties, parental emotion socialization (ES) practices have been understudied in survivors of child maltreatment. Theoretical models of ES propose that the way parents model, engage with, and react to emotions, as well as the emotional climate of the family, has a profound impact on children's emotional development (Eisenberg et al., 1998; Morris et al., 2007). Unsupportive ES practices, such as punitive or minimizing responses to children's negative emotions, are thought to communicate to children that their negative feelings are unacceptable and should be suppressed (Eisenberg et al., 1998; Gottman et al., 1996; O'Neal & Magai, 2005). Conversely, supportive responses, such as comforting or problem-solving behaviours, are thought to reduce children's distress and scaffold the acquisition of adaptive ER skills (Eisenberg et al., 1998; Fabes et al., 2002).

Accordingly, parents' unsupportive responses have been associated with negative outcomes in children including maladaptive coping strategies (Sanders et al., 2015), lower levels of socio-emotional competence and ER abilities (Jones et al., 2002; Williams & Woodruff-Borden, 2015), and higher levels of negative emotional intensity and lability (Fabes et al., 2001; Shaffer et al., 2012). Unsupportive responses have also been linked to behavioural problems and psychopathology in children (Eisenberg et al., 2001; Sanders et al., 2015; Suveg et al., 2008) and adolescents (Katz et al., 2014; O'Neal & Magai, 2005; Shortt et al., 2016; Stocker et al., 2007). In contrast, supportive parental responses have been associated with better ER skills and constructive coping in children (Cole et al., 2009; Hurrell et al., 2015; Valiente et al., 2004) and adolescents (Criss et al., 2016), as well as lower levels of internalizing difficulties (Briscoe et al., 2019; Hastings et al., 2014). Thus, parents' responses to children's emotions have a strong influence on the trajectory of their emotional development.

Existing literature on child maltreatment and parental emotion socialization. Of the few studies that have focused on child maltreatment and parental ES, the majority have been conducted in samples of maltreating mothers. For example, when compared to a control group, physically maltreating mothers were less likely to engage in discussions that facilitated their child's emotional understanding (Shipman & Zeman, 1999), less likely to encourage their children to use constructive coping strategies (Shipman & Zeman, 2001), and more likely to invalidate their children's negative emotions (Shipman et al., 2007). The experience of insufficient ES is also common to neglected children (Shipman et al., 2005) and survivors of sexual abuse (Shipman et al. 2000; Thomas et al., 2011), which suggests that maltreating parents may be less likely to model or teach their children adaptive ER skills.

The tendency to focus on mothers who perpetuate the cycle of child maltreatment is problematic given that the majority of parents who have been maltreated do not go on to abuse or neglect their own children (Schelbe & Geiger, 2017). Consequently, it is important to attend to the intergenerational transmission of maladaptive parenting more broadly by studying the determinants of parenting behaviours, or factors associated with the persistence of maladaptive parenting across generations (Belsky, 1984; McCloskey, 2017; McCullough et al., 2015). In line with this proposition, some researchers have focused on contextual determinants of parental ES. For instance, Valiente and colleagues (2007) found that higher levels of family chaos predicted less supportive reactions in response to children's negative emotions. Similarly, the relationship between familial risk (i.e., single parenthood, large household size, lower levels of maternal education, low income, and maternal psychological distress) and children's emotional functioning was mediated by mothers' use of unsupportive contingencies (Shaffer et al., 2012).

With respect to individual-level factors, Liu and colleagues (2019) found that a maternal history of emotional abuse predicted higher maternal negative expressivity when children were 14 months old, even when controlling for socio-economic status and maternal histories of physical and sexual abuse. However, given that this study was conducted in China, the impact of childhood physical abuse on maternal ES may have been under-estimated since corporal punishment is still culturally accepted (Liu et al., 2019). In support of this notion, a study of American mothers

demonstrated that all subtypes of maltreatment were correlated with lower levels of supportive responses to children's negative emotions (Rea & Shaffer, 2016). Specifically, mothers who reported higher levels of child maltreatment reported that they were less likely to encourage their child to express their emotions and endorsed less emotion-focused reactions (e.g., comforting the child) and problem-focused reactions (e.g., helping the child to solve the problem that was contributing to their distress). Contrary to their expectations, Rea and Shaffer (2016) found no evidence that child maltreatment increased mothers' reports of unsupportive responses such as punitive, minimizing, or distress reactions. The authors hypothesized that it may be easier for mothers to break the cycle of unsupportive behaviours than it is for them to learn a new repertoire of supportive responses, however more research is needed to determine whether these findings can be reproduced.

Connections between parental emotion regulation and emotion socialization practices

In addition to replicating existing findings, it is crucial to consider mechanisms that might explain the relationship between parents' child maltreatment history and ES practices. Similar to research that has demonstrated the importance of ER to adaptive parenting more broadly (Crandall et al., 2015), ER is thought to play an important role in a parent's ability to provide adaptive ES. Morris and colleagues (2007) hypothesized that parental characteristics – such as parents' emotional reactivity, psychopathology, and ER skills – may have indirect effects on children's emotional functioning through their impact on parental ES. Hence, parents who perceive negative emotions as aversive, or who lack the ability to tolerate and manage their own emotions, may become overwhelmed with the emotional demands of parenting and be more likely to engage in self-focused strategies aimed at reducing their own negative affect at the expense of their child's emotional needs (Gottman et al., 1996; Lagacé-Séguin & Coplan, 2005). Accordingly, parents who reported higher levels of distress when their children expressed negative emotions reported more unsupportive responses, which in turn, was associated with higher emotional intensity and lower social competence in their children (Fabes et al., 2001; 2002). Further, by establishing a relationship between parental psychopathology and unsupportive ES (Arellano et al., 2018; Breaux et al., 2016), researchers have implied that ER difficulties may be a key mechanism underlying this association.

Several studies have identified a link between parents' emotion dysregulation and unsupportive responses including punishing, ignoring, or minimizing the emotions of school-aged (Han et al., 2015; Morelen et al., 2016) and adolescent (Buckholdt et al., 2014; Jones et al., 2014) children. Similarly, parents who reported suppressing their negative emotions were less responsive during parent-child interactions (Le & Impett, 2016), less likely to report facilitating the expression of their children's negative emotions (Meyer et al., 2014), and more likely to report using unsupportive responses (Hughes & Gullone, 2010).

In line with the hypothesis proposed by Morris and colleagues (2007), the relationship between maternal ER difficulties and ER difficulties in offspring appears to be mediated by mothers' unsupportive ES (Briscoe et al., 2019; Buckholdt et al., 2014; Morelen et al., 2016). However, just as deficits in parental ER may contribute to unsupportive responses, it is also true that the presence of adaptive ER may prevent parents from engaging in unsupportive behaviours. For instance, parents who exhibited more adaptive ER during parent-child interactions (Morelen et al., 2016) and reported higher levels of emotional awareness, acceptance, and clarity (Meyer et al., 2014; Yap et al., 2008) were less likely to report using unsupportive responses with preschool (Meyer et al., 2014), school-aged (Morelen et al., 2016), and adolescent (Yap et al., 2008) children. Moreover, a parents' ability to reappraise upsetting situations may facilitate the use of supportive responses when children are in distress (Cabecinha-Alati, Malikin, & Montreuil, in press; Hughes & Gullone, 2010; Meyer et al., 2014). Consequently, parents who are more capable of regulating their emotions may be better equipped to respond to children in supportive ways, whereas those who struggle with ER may utilize unsupportive responses.

Studies in survivors of child maltreatment. Although there is a dearth of literature that examines parental ER and ES in child maltreatment survivors, there is some evidence to suggest that a history of child maltreatment, and subsequent ER difficulties, have an effect on parental ES. For example, researchers have postulated that mothers with borderline personality disorder (BPD) – and presumably a history of emotional abuse (Linehan, 1993) – may lack the ability to understand and manage their emotions, which in turn, could make them less likely to engage in adaptive ES (Stepp et al., 2012). This hypothesis was corroborated in a study that showed that the relationship between maternal BPD symptoms and unsupportive ES was mediated by maternal ER difficulties (Kiel et al., 2017). However, given that child maltreatment history was not assessed, this study only offers tentative support.

To our knowledge, only two studies have examined the relationships between child maltreatment, parental ER, and ES. Cabecinha-Alati, Langevin and colleagues (2020) found that higher levels of childhood polyvictimization predicted lower levels of parental ER skills, which in turn, predicted parents' use of unsupportive responses when their children expressed negative emotions. However, they did not assess adult experiences of revictimization. In contrast, Martin and colleagues (2018) found that mothers who experienced high betrayal trauma revictimization (i.e., high betrayal trauma in both childhood and adulthood) were more likely to report distress reactions in response to their adolescents' expressions of negative affect. Additionally, the relationship between mothers' victimization and negative responsivity was mediated by maternal ER difficulties such that mothers who experienced revictimization experienced higher levels of emotion dysregulation, which in turn, was positively associated with their negative responsivity (Martin et al., 2018). These findings coincide with studies that emphasize the detrimental role of child maltreatment and revictimization on parenting (Banyard et al., 2003; Cole et al., 2009; Dubowitz et al., 2001), as well as studies that have established links between revictimization and heightened levels of emotion dysregulation (Walsh et al., 2011), and emotion dysregulation and unsupportive ES (e.g., Buckholdt et al., 2014; Morelen et al., 2016). However, more research is needed to corroborate these findings in parents with a history of child maltreatment.

Conceptual model of the intergenerational transmission of emotion dysregulation

Building upon the literature reviewed, the ensuing section describes a novel conceptual model that elucidates some of the mechanisms involved in the intergenerational transmission of emotion dysregulation. Although the relationships between child maltreatment and adult ER difficulties (e.g., Burns et al., 2010), parental ER and ES (e.g., Morelen et al., 2016), and parental ES and offspring ER (e.g., Shortt et al., 2016), have been supported in studies that examined these constructs separately, it appears that only two studies (Cabecinha-Alati, Langevin et al., 2020; Martin et al., 2018) have tested these relationships simultaneously. Furthermore, there is currently no comprehensive model that accounts for the associations between these constructs.

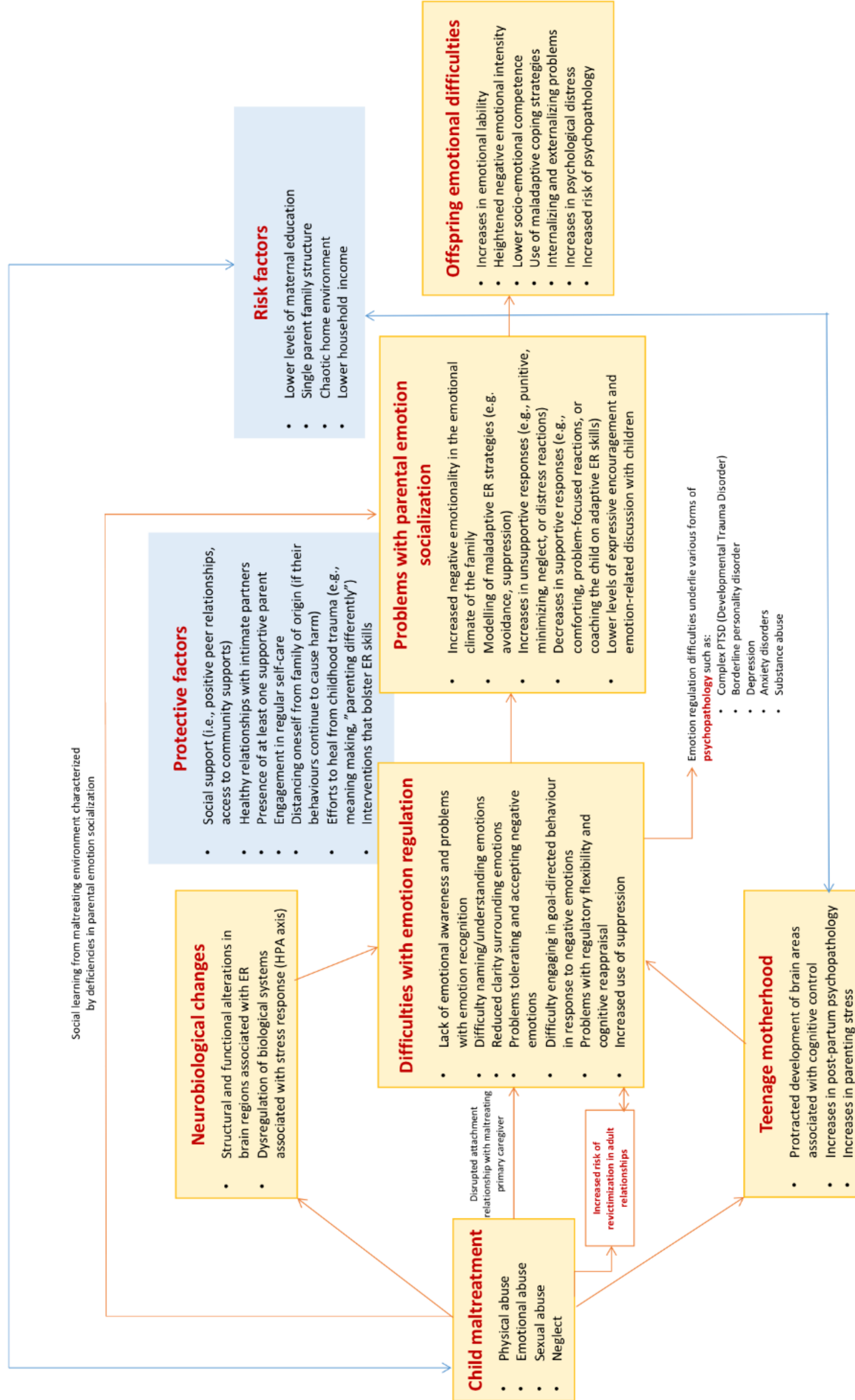
Given that the majority of the research outlined in this review has been conducted in samples composed of women, the model will be applicable to mothers who endorse a history of child maltreatment. The framework for the model was informed by pre-existing models including *The Resource Loss Model of Childhood Abuse Trauma* (Cloitre, Cohen, & Koenen, 2011) theories pertaining to betrayal trauma and complex trauma (Freyd, 1996; van der Kolk, 1996; 2005), *The Affective Organization of Parenting Model* (Dix, 1991), and theoretical models of parental ES (Eisenberg et al., 1998; Morris et al., 2007) and social learning (Bandura, 1977).

It is hypothesized that a maternal history of child maltreatment will have both direct and indirect effects on parental ES practices through the various mechanisms illustrated below (see Figure 1). Moreover, maternal ES practices are expected to influence the ER difficulties of offspring in the next generation.

Indirect effects of child maltreatment history on parental emotion socialization

In this model, the indirect relationship between child maltreatment and parental ES in adulthood is thought to be attributable to the negative sequelae of child maltreatment. More specifically, child maltreatment has been associated with changes in the neurobiological systems underlying ER (e.g., Caldwell et al., 2014; Dannlowski et al., 2012) and ER difficulties that persist into adulthood (e.g., Burns et al., 2010; Ehring & Quack, 2010), presumably because child maltreatment contributes to disruptions in attachment relationships with primary caregivers that interfere with the development of affect regulation (Cloitre, Cohen, & Koenen, 2011; Schore & Schore, 2008). Child maltreatment has also been shown to increase the risk of teenage motherhood (Garwood et al., 2015; Hillis et al., 2004) and revictimization in the context of adult relationships (Arias, 2004; Desai et al., 2002). Given the association between teenage motherhood, post-partum psychopathology, and parenting stress (Madigan et al., 2014; Spencer et al., 2000), as well as the protracted cognitive development that occurs during adolescence (Casey et al., 2011), teen mothers may experience higher levels of ER difficulties which in turn, negatively impact parenting (McCullough et al., 2015). The experience of additional traumas in adulthood also contributes to parenting problems (Banyard et al., 2003; Cole et al., 2009), likely because experiences of revictimization can exacerbate ER difficulties (Martin et al., 2018; Walsh et al., 2011), which increases the risk of further revictimization (Messman-Moore et al., 2010).

Figure 1. A conceptual model illustrating the intergenerational transmission of emotion dysregulation among mothers with a history of child maltreatment.



Subsequently, ER difficulties interfere with adaptive parenting as evidenced by studies that have documented a relationship between parental emotion dysregulation and unsupportive ES practices (e.g., Briscoe et al., 2019; Han et al., 2015; Morelen et al., 2016). With regard to child maltreatment survivors, caregivers who have experienced this complex trauma may be even more likely to avoid negative emotions, which in turn, would impair their ability to respond supportively when children experience distress (Cook et al., 2005; Zvara, Mills-Koonce & Cox, 2017). Preliminary evidence suggests that parental ER difficulties play a role in the relationship between childhood maltreatment and problems with parental ES including higher levels of maternal negative expressivity (Liu et al., 2019), lower levels of supportive responses (Rea & Shaffer, 2016), and higher levels of negative responsivity (Martin et al., 2018). In turn, deficiencies in parental ES are likely to contribute to emotional problems in offspring (e.g., Sanders et al., 2015; Shaffer et al., 2012).

To summarize, the conceptual model proposes that experiences of child maltreatment have detrimental impacts on ER that persist into adulthood and increase the likelihood of other risk factors (e.g., teenage motherhood and revictimization) that can have an adverse effect on ER. In turn, ER difficulties are thought to interfere with the parental role and put children at risk for emotional difficulties by compromising various dimensions of ES including the emotional climate of the family, parents' ability to model adaptive ER strategies, parents' contingent responses to their child's negative emotions, and the ability to engage in emotional discussions with children. Protective factors such as social support, secure attachment with a supportive caregiver, healthy relationships with peers and intimate partners in adulthood, engagement in regular self-care, and other efforts to heal from childhood trauma can mitigate the effects of child maltreatment on ER and parenting (Alink et al., 2009; Chamberlain et al., 2019; Collishaw et al., 2007; DuMont et al., 2007; Kooiman et al., 2004). Conversely, familial and environmental risk factors (e.g., single parenthood, lower levels of maternal education, and an impoverished or chaotic home environment) can exacerbate difficulties with parental ES (Shaffer et al., 2012; Valiente et al., 2007) and contribute to poor developmental outcomes in children (Letourneau et al., 2013; Serbin & Karp, 2004).

Direct effects of child maltreatment history on parental emotion socialization

In addition to the indirect effects of child maltreatment on parents' ES through parental ER, child maltreatment may also have direct effects on parental ES as a result of social learning (Bandura, 1977). Numerous studies suggest that maltreating parents fail to act as effective ES agents for their children (e.g., Shipman et al., 2005; 2007; Shipman & Zeman, 2001). Consequently, children who grow up in maltreating environments are less likely to be exposed to parents who model adaptive ES practices and are more likely to be exposed to parents who model abusive or emotionally invalidating behaviours, which in turn, could make them more likely to engage in unsupportive parenting with their own children (Baker & Crnic, 2005; Conger et al., 2003; McCullough et al., 2015). Martin and colleagues (2018) found that the direct path from maternal high betrayal trauma revictimization to mothers' negative responsivity became non-significant when maternal ER difficulties were added to the model. However, given that they only assessed maternal distress responses, these findings should not be generalized to other dimensions of unsupportive ES (such as punitive responses), that may be more susceptible to replication through social learning. Therefore, more research is needed to ascertain the effects of child maltreatment on these aspects of parental ES.

Directions for future research

Given the importance of ER for parenting and children's wellbeing, there is a strong need to elucidate the mechanisms by which parental emotion dysregulation is transmitted to children (Rutherford et al., 2015) and to understand the role of parents' child maltreatment history and parental ES in this relationship. The conceptual model presented can guide future research by informing the development of mediation or moderation models that test for direct and indirect effects of child maltreatment on parental ES. Once these relationships are established in mothers, future research should focus on fathers, who are underrepresented in the literature (e.g., Wark & Vis, 2018). Additionally, since the majority of studies examining parental ES have focused on parents of preschool or school-aged children, the literature examining parental ES in adolescence is relatively sparse (Zeman et al., 2013), necessitating more research in this area. Finally, given that most studies on child maltreatment and parenting have focused predominantly on physical and sexual abuse (see Vaillancourt et al., 2017), more research is needed to investigate the impact of exposure to intimate partner violence (IPV), neglect, and emotional maltreatment since these are amongst the most common forms of child maltreatment being reported (Chamberland et al., 2011; Fallon et al., 2020; Maguire & Naughton, 2016). Despite increasing recognition of the detrimental effects of exposure to IPV in childhood (e.g., Roustit et al., 2009), this subtype of maltreatment was not included in the present review because it is not perpetrated against the child per se.

Limitations

Despite the utility of the conceptual model, there are several limitations that warrant consideration. Firstly, it is important to recognize that culture (Dunsmore & Halberstadt, 2009; Friedlmeier et al., 2011) and gender (Cassano & Zeman, 2010; Zeman et al., 2010) may be strong determinants of parental ES and its effects on children's ER. However, these variables were not included in the present model. Moreover, although many relationships are portrayed as unidirectional, there are undoubtedly reciprocal influences that should be considered. For example, child characteristics such as personality, temperament, and emotional reactivity (Mazzone & Nader-Grosbois, 2017; Morris et al., 2007; Yap et al., 2008) as well as the child's ER abilities (Morelen & Suveg, 2012) have an influence on parents' ES practices. There is also evidence to suggest that moderating factors, such as children's level of physiological reactivity (McQuade & Breaux, 2017) and support-seeking behaviours (Miller-Slough et al., 2016), might influence the extent to which parents' unsupportive responses impact children's ER. Although unsupportive ES has been related to poor ER and behavioural problems in children, high levels of emotion coaching when children expressed negative emotions was found to buffer against the detrimental effects of parents' dismissing responses (Lunkenheimer et al., 2007). Thus, it is also important to consider protective factors that could prevent the development ER difficulties in children who are exposed to unsupportive ES.

Another limitation is that this model pertains to the transmission of emotion dysregulation amongst mothers with a history of child maltreatment. More research is beginning to examine the unique influence of fathers in the process of ES (e.g., Gerhardt et al., 2020) and despite widespread recognition that ES occurs within the family system (Morris et al., 2007), there is a paucity of literature on how mothers and fathers socialize children's development in an interactive way (Poon et al., 2017). A study by McElwain and colleagues (2007) found that when one parent reported low levels of supportive ES, greater support by the other parent was related to higher levels of emotional understanding in children. However, when one parent reported high levels of supportive ES, high levels of support from the other parent was actually associated with less optimal functioning. As such, rather than supporting an additive model wherein higher levels of support yield better outcomes, a growing body of evidence supports a divergence model in which children's psychosocial adjustment is facilitated by exposure to a diverse range of parental responses characterized by varying levels of maternal and paternal supportiveness (Miller et al., 2015; Miller-Slough et al., 2018; Poon et al., 2017).

In addition to studies examining interactive effects of ES, some research has examined cross-over effects between spouses. For example, Bai and Han (2016) found that childhood emotional abuse experienced by one parent was positively associated with parenting stress in the other parent and determined that this relationship was mediated by the abused parent's emotional dysregulation. Similarly, Li and colleagues (2019) showed that higher levels of maternal emotion dysregulation predicted lower levels of supportive ES from fathers and indicated that this relationship was mediated by father's reports of marital conflict. It remains unclear how interactions within the family system might moderate the impact of maternal unsupportive ES on children's emotional development and as such, this might be an area for future research.

Lastly, although the majority of ES research has been conducted within the family context (Miller-Slough & Dunsmore, 2016), extra-familial influences not included in the model could also influence the trajectory of children's emotional development. For example, childhood teachers act as ES agents for their students by modelling emotions, engaging in instruction regarding children's emotional experiences, and their contingent responding to children's emotional expressions (Morris et al., 2013). As children transition into adolescence, it becomes even more crucial to consider how extra-familial socialization by peers, romantic partners, and the media can influence ER (Brand & Klimes-Dougan, 2010). Some studies have examined the influence of peer ES (Borowski et al., 2018; Klimes-Dougan et al., 2014), however studies examining the role of parent and friend ES tend to do so concurrently, rather than examining interactive effects (Cui et al., 2020; Miller-Slough & Dunsmore, 2019). As such, the combined influence of multiple socializers remains equivocal and more research is needed to determine whether supportive ES from extra-familial sources might mitigate the negative impact of parents' unsupportive ES on children's emotional development.

Clinical implications

Notwithstanding these limitations, this review and conceptual model have important clinical implications. To attenuate the consequences of child maltreatment and promote resilience in future generations, it is crucial to provide increased access to services designed for parents who were maltreated as children (Plant et al., 2018). In line with the conceptual model, such services should focus on ameliorating parental ER difficulties. Ford and colleagues (2005) reviewed several interventions for complex trauma and one of the most important common factors was an initial phase that focused on developing the client's self-regulation skills. Similarly, best practices for the treatment of complex PTSD suggest that first-line interventions should specifically target ER difficulties (Cloitre, Courtois et al., 2011). Given that parents must be able to tolerate their own distress in order to engage in adaptive, child-focused parenting practices (Gottman et al., 1996; Lagacé-Séguin & Coplan, 2005), bolstering parental ER skills may be a first step to disrupting the intergenerational transmission of emotion dysregulation and promoting resilience in children.

Despite the pervasiveness of child maltreatment and the need to improve ER in this vulnerable population, the majority of those who have been maltreated do not utilize outpatient mental health services (Ringeisen et al., 2009). As such, parenting programs that target at-risk populations may be a more effective and accessible option. In a meta-analysis investigating the effectiveness of parenting programs, those that provided training in emotional communication reported significantly larger positive differences in parenting behaviours than those that did not (Kaminski et al., 2008). In line with the shift towards recognizing transdiagnostic mechanisms involved in psychopathology (Aldao et al., 2010; Gross & Jazaieri, 2014), there has also been increased emphasis on transdiagnostic programs that target parental ER skills (Maliken & Katz, 2013). The Tuning into Kids and Tuning into Teens programs in Australia (Havighurst & Harley, 2007a; 2007b) have been successful in improving parental ER abilities, decreasing parents' use of unsupportive ES practices, and increasing supportive ES (Havighurst et al., 2010; 2013; 2015; Kehoe et al., 2014). These parenting programs have also yielded positive outcomes amongst children including improvements in emotional knowledge and reductions in externalizing and internalizing difficulties (Havighurst et al., 2010; 2013; 2015; Kehoe et al., 2014). Similar programs could be developed for parents with a history of child maltreatment in Canada, however it would be important to take a trauma-informed approach that acknowledges the ambivalence around help-seeking and facilitates sessions in a child-friendly, non-clinical setting that fosters social support, optimism, and healing (Muzik, Ads, et al., 2013).

Conclusion

The review and conceptual model presented provide a theoretical and empirical synthesis of research examining child maltreatment, ER, and parenting behaviours, with an emphasis on parental ES. More research is needed to validate the conceptual model and to support the development of trauma-informed parenting programs that disrupt the transmission of emotion dysregulation and promote resilience in future generations.

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Conflict of interest

The authors have no conflict of interest to disclose.

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"*A journey back to my wholeness*": A qualitative metasynthesis on the relational and sexual recovery process of child sexual abuse survivors

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Abstract

Objective: This study aims to document the relational and sexual recovery process of child sexual abuse (CSA) survivors.

Method: Using the framework-based synthesis approach (Dixon-Woods, 2011), a metasynthesis was conducted on qualitative peer-reviewed studies published between 2004 and 2019, focusing on the recovery from relational and sexual outcomes related to CSA experiences. Criteria of inclusion: 1) included self-identified men or women who had sustained sexual abuse in childhood; 2) focused on CSA related relational or sexual outcomes and recovery processes; 3) included a qualitative component incorporating interviews or focus groups; 4) were carried out in Western countries. According to these criteria, a sample of eight articles was constituted. A direct content analysis was performed using *The Drive to Move Forward Framework* (Ochocka et al., 2005).

Results: Findings yielded three main categories that illustrate the relational and sexual recovery process of CSA survivors: 1) The Drive to Move Forward after CSA; 2) Positive Strategies Mobilized to Recover from Relational and Sexual Issues Left by CSA and; 3) Social Circumstances that Facilitate or Hinder the Relational and Sexual Recovery Process.

Conclusion: Although their relational and sexual recovery process may involve setbacks, and that they may be confronted with impeding social circumstances, survivors mobilize strategies and social resources to help them move forward after CSA.

Implication: In order to help CSA survivors in achieving a satisfying relational and sexual life, providers should adopt a personalized approach that respects their process of relational and sexual recovery and adopt an ecological perspective to better understand the factors that can modulate this process.

Keywords: Qualitative metasynthesis, child sexual abuse, recovery, sexuality, relationships, gender.

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Introduction

Child sexual abuse (CSA) is considered as an alarming public health issue (Kendall-Tackett, 2012) causing a wide range of impacts in children, which can persist or even be exacerbated in adulthood (Trickett et al., 2011). A 30-year longitudinal study reported several outcomes in adult survivors of CSA, such as increased risks of PTSD symptoms, major depression and anxiety disorder, decreased self-esteem and life satisfaction, as well as suicidal ideation or suicide attempt, and alcohol or drug dependence (Fergusson et al., 2013). Regarding their sexuality, CSA survivors are more prone to experiment risky sexual behaviors (Homma et al., 2012), flashbacks during sexual intercourses (Carreiro et al., 2016), sexual avoidance (O'Leary et al., 2017) or compulsivity (Aaron, 2012; Vaillancourt-Morel et al., 2015) and may hold a more negative sexual self-concept (Guyon et al., 2020). They are more likely to use sexuality as a strategy to cope with negative feelings (Lemieux & Byers, 2008) and to sexualize their interpersonal relationships to meet their emotional needs (Guyon et al., 2019). Survivors are also more inclined to be distrustful in their intimate relationships (Alaggia & Millington, 2008) and to report difficulties with intimacy and proximity (Crete & Singh, 2015; Godbout et al., 2013). Additionally, survivors show lower levels of relationship satisfaction (Berthelot et al., 2014), which can lead to difficulties in building lasting healthy relationships.

Multiple difficulties and symptoms related to CSA have led researchers to study how survivors adapt to these adverse life experiences. Recently, the concepts of resilience, posttraumatic growth, healing, and recovery have received more attention in the scientific body of knowledge. Recent qualitative studies as well as metasynthesis (Draucker et al., 2009; Jeong & Cha, 2019) have documented the general recovery or healing processes used by survivors to cope with CSA and its multiple consequences. Healing and recovery are similar concepts that refer to a process over time, resulting in positive changes from adverse life experiences, but which may comprise episodes of stepping backwards (Calhoun et al., 2000). Even if there is a lack of consistency in defining and measuring this concept, resilience has been conceptualized in several recent studies as a dynamic process involving an interaction between several protective factors or resources available that help individuals to overcome adversity (i.e., personal, social and societal; Kolar, 2011; Ungar, 2012). Posttraumatic growth relies on the positive psychological changes experienced by resilient individuals following these events (Calhoun et al., 2010). A qualitative study documenting posttraumatic growth in CSA survivors shows that survivors may adopt positive coping behaviors and develop inner strengths to face CSA experiences and to achieve psychological well-being (Walker-Williams et al., 2013). A recent systematic review of 37 studies found several resilience factors fostering CSA survivors' adaptive functioning. The most reported protective factors were related to personal (e.g., emotional and interpersonal competences, optimism) and environmental components (e.g., education, social support; Domhardt et al., 2015). To explain the healing process of survivors, Draucker and colleagues (2011) proposed an integrative four-stages model: 1) struggling to find the meaning of CSA; 2) figuring out the meaning of CSA; 3) fighting against the difficulties lingering from CSA and; 4) becoming the owner of one's life. Besides supportive relationships, internal characteristics and turning points have also been reported as key factors in the process of healing from CSA experiences (Arias & Johnson, 2013). Several studies that have documented the recovery processes from CSA evoked internal (e.g., personal insights, spirituality) and external (e.g., influential relationships) factors, as well as significant events (e.g., CSA disclosure or denunciation, giving birth), which are often reported as "turning points" (Banyard & Williams, 2007; Easton et al., 2015).

Although a significant number of qualitative studies of CSA survivors have been conducted in recent years, many of these studies have identified recovery processes related to CSA experiences and its perceived consequences without specifically documenting the relational and sexual components of such processes. Yet, CSA is an interpersonal and sexual trauma in itself (i.e., it involves unwanted sexual acts mostly committed by a loved or trusted figure; Wager, 2013). This underlines the relevance to dwell on these specific components when investigating the recovery process of survivors. The processes depicted in previous metasynthesis on CSA recovery focused on internal mechanisms or changes within survivors themselves, whereas recovery processes seem to be also influenced by social mechanisms (Choate, 2012). It seems relevant to explore both individual and social factors that characterize the recovery process of CSA survivors facing relational and sexual challenges. A synthesis of qualitative data would offer an integrative portrait of this fragmented piece of literature and help identify the remaining gaps. Thus, through a metasynthesis of qualitative studies, this study aims to document the recovery process that CSA survivors will go through within their intimate relationships and sexuality, while incorporating social factors that may influence this process.

Method

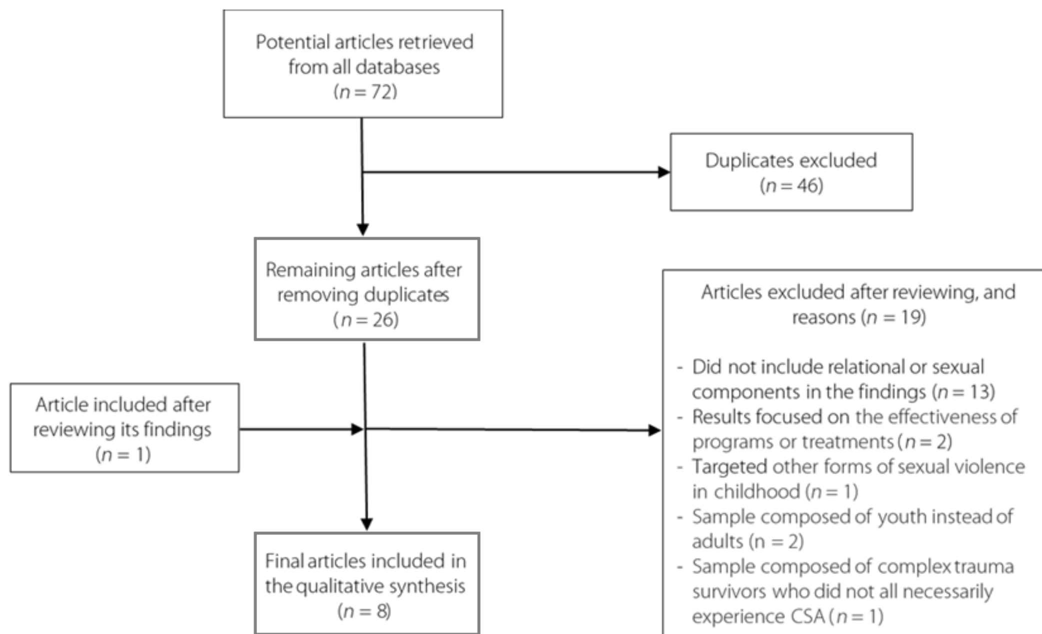
Study design

A metasynthesis based on a framework synthesis approach (Dixon-Woods, 2011) was conducted. This method uses an a priori framework to synthetize qualitative findings chosen in regard of its theoretical relevance. This method is particularly useful to facilitate a rigorous analysis of the large amount of data by structuring the findings (Dixon-Woods, 2011) and to provide support for or to extend conceptually an existing theoretical framework (Elo & Kyngäs, 2008). Since there are already many qualitative studies on the recovery processes of individuals who have experienced events of adversity, it is relevant to consider how an existing framework can be applied to CSA survivors regarding their relational and sexual difficulties. The framework used can then be improved and adapted as the analyses proceed (Dixon-Woods, 2011)

Procedure and sample

A review of qualitative peer-reviewed studies published in English between 2004 and May 2019 has been conducted to document the recovering process of adult survivors facing relational and sexual issues due to CSA experiences. Four databases (PsycINFO, Pubmed, SAGE Journals, and Gender Studies Database) were screened using a combination of the following search terms: resilience, recovery, healing, thriving, posttraumatic growth, positive adaptation, positive sexuality, child sexual abuse, sexual abuse, qualitative, and mixed methods. Studies were included according to five criteria: 1) they included self-identified men or women who had sustained sexual abuse in childhood; 2) they focused on CSA related relational or sexual outcomes and recovery processes; 3) they included a qualitative component incorporating interviews or focus groups; 4) they were carried out in Western countries. A total of 72 articles that met the five inclusion criteria were found. After verification, 46 duplicates were removed. Then, researchers reviewed the 26 potential articles. Among these, 13 articles were excluded because they did not include relational or sexual components (e.g., relational or sexual issues, coping with relational or sexual issues) as a part of their results; however, studies that partly addressed relational or sexual components were included. Two studies with results focusing on the effects of programs or treatments were excluded, as well as one study that targeted other forms of sexual violence in childhood (e.g., sex trafficking). Two studies were excluded because of their samples: one composed of children and one composed of adult survivors of complex trauma who did not all experienced CSA. Finally, although it did not explicitly evoke the terms resilience, recovery, healing or posttraumatic growth within its results, one study that addressed positive sexual self-schemas in women was included since these components are linked. The process of retrieving and screening articles is illustrated in Figure 1.

Figure 1. Flowchart illustrating the process of retrieving and screening articles



A total of eight articles that met the inclusion criteria were analyzed. A summary of the designs used in each study along with the number and characteristics of participants, CSA criteria, approach to data analyses, and quality scores are presented in Table 1. Studies were mostly conducted in the United States and included survivors of severe CSA from various ethnic backgrounds aged between 18 to 62 years old. Four studies included exclusively female survivors while two included exclusively males. One included both male and female survivors and one study included male survivors and their female partners who did not sustain CSA. In most studies, CSA criteria referred to sexual acts involving contact with the victim. Articles also included offender's characteristics (i.e., identity, age difference with the victim), while only one of them included information on frequency and duration of CSA. Two studies did not define the CSA criteria considered. Both studies conducted by Kia-Keating and colleagues (2005, 2010) are based on the same sample but since their results provide additional insights into the data, they were both considered. Two main approaches to data analysis were used, grounded theory and phenomenology.

Study quality was assessed using the checklist of Kmet et al. (2004) for quality scoring of qualitative studies included in this metasynthesis. Ten components were assessed (e.g., verification of procedures, reflexivity of the account). Scores were summed and calculated as a percentage, ranging from 0 to 100%, by two independent researchers. Thereafter, disparities between scores were discussed until a consensus was reached. Description and justification of each component were attributed a score of 0 (no), 1 (partial) or 2 (yes) and calculated as a percentage. All of the qualitative studies scored 80% or higher, which attests to their quality.

Table 1. Studies included in metasynthesis

#	Authors	Year	Research design	Qualitative sample	CSA Criteria	Approach to data analysis	Quality score
1	Newsom & Myers-Bowman	2017	Qualitative; Open-ended interview	**6 women;** Living in USA, White Americans, Between 18 and 55 years of age ($m = 40$)	CSA occurred 5 times or more over a minimum of a 1-year period	Inductive; Symbolic interactionist; Phenomenology	80%
2	Hitter, Adams & Cahill	2017	Qualitative; Semi-structured interview; Researcher's self-reflexive journal	**8 women;** Living in USA, 1 Latina, 6 non-Latina white & 1 multi-ethnic, Between 28 and 45 years of age	CSA defined as any sort of sexual contact and exposure to pornography before age 15 with someone at least 5 years older than the child	Thematic analysis	85%
3	Kia-Keating, Grossman, Sorsoli, & Epstein	2005	Qualitative; Semi-structured interviews	**16 men;** Living in USA, Multi-ethnic, 41.5 years old average	Severe CSA, defined as incestuous abuse and/or abuse by a caretaker (teacher, babysitter, etc.) involving oral, anal, or genital intercourse or attempted intercourse	Grounded theory	90%
4	Kia-Keating, Sorsoli & Grossman	2010					
5	Singh, Garnett, & Williams	2013	Qualitative; Semi-structured interviews	**10 women;** Living in USA, African American, Above 18 years-old	CSA occurred before 12 years old	Phenomenology; Feminism empowerment theory; African feminist theory	85%
6	Crete & Singh	2015	Qualitative; Semi-structured individual and couple interviews	**5 men and their female partners**; Living in USA, White, Between 20-60 years of age	Undefined	Phenomenology; Grounded in relational-cultural theory (RCT)	80%
7	Hartley, Johnco, Hofmeyr, & Berry	2016	Qualitative Semi-structured interviews	**6 women;** Living in UK, 3 British & 3 Indian, Between 30-52 years of age	CSA occurred before 16 and perpetrated by a family member. CSA defined as sexual acts by an adult above 18 years-old or 5 years-old older than the victim	Phenomenology	90%
8	Roller, Martsolf, Draucker & Ross	2009	Qualitative; Semi-structured interviews	**47 men and 48 women;** Living in UK, Multi-ethnic, Between 18 and 62 years of age	Undefined	Grounded theory; Constant comparison analysis	80%

Analytic strategy

The question that guided analysis in this study was the following: how do CSA survivors recover from relational and sexual issues left by CSA experiences? To answer this question, a direct content analysis (Hiesh & Shannon, 2005) was conducted in light of *The Drive to Move Forward Framework* (Ochocka et al., 2005). This framework is based on findings from a longitudinal qualitative study among individuals affected by serious mental illnesses and other life events involving struggle, with a focus on the recovery process of these individuals. This process is non-linear, including both successes (i.e., positive changes) and setbacks (i.e., negative changes) and is ecologically oriented (i.e., experienced within the context of personal and external circumstances). The first concept of the recovery process is the "drive to move forward", characterized by internal forces and a motivation to move forward and overcome current struggles. The drive to move forward is mainly manifested by awakenings or changes in perceptions or attitudes (e.g., hope, optimism). Another concept of the framework relies on accommodation-oriented strategies (e.g., knowing one's illness, acceptance of limits and capacities) and action-oriented strategies (e.g., taking control, seeking support) that individuals can deploy. These strategies can be cognitive, behavioral or both. The strategies are seen as mechanisms of life change (i.e., positive or negative), which will further add to life experiences. Finally, "circumstances that may influence the process of recovery" such as internal and external circumstances constitute the last component. Internal-related components refer to personal characteristics (e.g., emotions, attitudes), while external-related components refer to social or environmental characteristics (e.g., stigma, responsive services) that may facilitate or hinder recovery. CSA and its consequences on intimacy and sexuality can be seen as a life struggle and encompass many mutual components of the recovery process. Studies about recovery and resilience in CSA survivors identified major turning points or awakenings, as well as adaptive coping strategies that can be used to move forward from the abuse (Chouliara et al., 2014; Easton et al., 2015). It is thereby arguable that this framework can apply to other forms of adversity, such as CSA.

As a first step in analysis, a coding procedure (i.e., assigning codes to each narrative excerpt) was performed using an open coding grid based on the framework, but which could also be improved according to data. Afterward, conceptual categories (i.e., a brief analytical description that best describes the general orientation of a code set; Paillé, 1994) were created where segments of the narratives were classified according to each concept of the framework (Hiesh & Shannon, 2005). Data that did not fit with the framework (e.g., narratives related to "reclaiming sexuality") were still considered to form new categories as a part of the recovery process. For instance, the category "The drive to move forward after CSA: a prerequisite to relational and sexual recovery" is clearly named as the "Drive to Move Forward" concept of the framework but its sub-categories (i.e., It did happen to me and it was wrong, It was not my fault, I forgave myself) are closer to the survivors' discourse. Analysis procedures were supported by Nvivo 12 pro software (QSR international Pty Ltd, 2018).

Research team

The research team made efforts to be aware of their influence on the findings by a process of reflexivity. Reflexivity refers to general introspection of the role of subjectivity by questioning the changes brought about by researchers as a result of the research process in addition to how these changes may affect the research process in return (Palaganas et al., 2017). Researchers should question themselves about their personal values, assumptions, standpoints, socio-cultural backgrounds, and how these may affect the research design or the findings (Hesse-Biber, 2007). The first and second authors are two women researchers who stem from the discipline of sexology and who are well trained on sexual victimization issues, having several years of expertise and experiences with qualitative methods. The third author, a woman clinical psychologist who is also a researcher in sexology, has several years of clinical expertise with CSA survivors and specialises in marital and sexual problems. Authors of this paper consider survivors as agentive actors of their life and share a positive approach to sexuality. Thus, the authors have a situated standpoint on the topic of this study, which has oriented the research method employed and the data analysis process.

Results

The relational and sexual recovery process of CSA survivors

This metasynthesis shows that recovering from CSA and the perceived consequences it can generate within intimate relationships and sexuality is a complex dynamic process for survivors. Results of the analysis uncovered three main categories related to the relational and sexual recovery process of CSA survivors, which are in concordance with *The Drive to Move Forward Framework* (Ochocka et al., 2005): 1) The drive to move forward after CSA: a prerequisite to relational and sexual recovery; 2) Positive strategies mobilized to recover from relational and sexual issues left by CSA:

cognitive and behavioral changes to achieve a satisfying intimate and sexual life; and 3) Social circumstances that facilitate or hinder the relational and sexual recovery process. Conceptual categories, sub-categories and the studies associated to each sub-category are presented in Table 2 and described in the following section.

Table 2. Categories, sub-categories and studies associated with each sub-category

Categories	Sub-Categories	Studies #
1. The drive to move forward after CSA: A prerequisite to relational and sexual recovery	**1.1** CSA awakenings: Recognition of the trauma and exculpation	1, 2, 3, 4, 5, 6, 7, 8
	1.2 Hope and determination: A self-definition over and above CSA	1, 6, 8
2. Positive strategies mobilized to recover from relational and sexual issues left by CSA: Cognitive and behavioural changes to achieve a satisfying intimate and sexual life	**2.1** Knowing one's own challenges: Figuring out the consequences of CSA on intimate relationships and sexuality	1, 2, 3, 4, 5, 6, 7, 8
	2.2 Recognizing and accepting one's own limits: Setting boundaries in intimate relationships	1, 2, 3, 4, 6, 8
	2.3 Reclaiming sexuality: Redefining sexuality to better assert it	1, 2, 3, 4, 5, 6, 7, 8
	2.4 Seeking support from therapy: Learning about and voicing intimacy and sexuality within a safe space	2, 4, 5
	2.5 Engaging in a supportive community: Giving back to others to help oneself recover	2
3. Social circumstances that facilitate or hinder the relational and sexual recovery process	**3.1** Facilitator to recovery: Caring intimate relationships	1, 2, 3, 4, 6, 7
	3.2 Hindrances to recovery: Traditional gender standards and social oppression	3, 4, 5, 6

Note. The Studies # column refers to the numbers assigned in Table 1.

1. The drive to move forward after CSA: A prerequisite to relational and sexual recovery

Narratives of male and female survivors across studies show that despite the struggles they face regarding CSA, they have found internal strengths or sources of motivation that have led them to move forward from these negative experiences. They reported several awakenings related to experienced CSA as well as hope and determination to overcome these experiences, which seem to be prerequisites for tackling their relational and sexual difficulties.

1.1 CSA awakenings: Recognition of the trauma and exculpation. As a protection mechanism or because they were too young to understand, many survivors have addressed a period of their life where they were partially or completely unaware that they experienced CSA. Results suggest that to move forward and overcome relational and sexual difficulties, survivors had to recognize these experiences as a CSA, recognize its severity or impacts, and put the responsibility back on their aggressor.

It did happen to me and it was wrong. Several male and female participants across studies mentioned that recognition of the sustained experience as CSA was a turning point in their process of recovery: "Now I'm ready to just try to get it open, open up, just say it, because it did occur" (Anthony, cited in Kia-Keating et al., 2005). For many survivors, the awakening of CSA was triggered by a first exposure to intimacy and sexuality, leading them to realize that these experiences were wrong: "I was in seventh grade in school because they started teaching at that time, they started ... in health, about the body and stuff. And I was in seventh grade when I started to realize these things were wrong" (49-year-old woman, cited in Roller et al., 2009).

It was not my fault. Survivors in different studies reported the experience of shame and culpability following CSA. In their process of recovery, they stated that shifting the blame and responsibility toward the aggressor appeared to be a form of self-release and helped them to move on: "Later, I realized this wasn't about me—it was about my abuser—and that made a huge difference in my life" (Rayna, cited in Singh et al., 2013).

I forgave myself. In connection with the need to move the responsibility towards their aggressor, some survivors realized that they did not consent to these experiences as a child and have forgiven themselves for having "participated" in the abuse or for the way they reacted: "[It was] hard to forgive myself, but it's a non-issue now, because I have forgiven myself… An honest look at the impact of the experience, placing blame and responsibility where it belongs, physiological response does not indicate consent" (Beth, cited in Newsom & Myers-Bowman, 2017).

1.2 Hope and determination: A self-definition over and above CSA. Some survivors touch upon hope and determination as strong wills to change things and to live their lives with empowerment. For example, a female participant expressed determination to not define herself through the CSA situations she experienced:

> "You become resilient when you are able to have strength and support, to where you go, 'It's not gonna bother me…' You become resilient when you can let it go or when you make the decision that it's not going to define you" (Martina, cited in Newsom & Myers-Bowman, 2017).

2. Positive strategies mobilized to recover from relational and sexual issues left by CSA: Cognitive and behavioural changes to achieve a satisfying intimate and sexual life

All participants across studies addressed several consequences of CSA within their relational and sexual lives. Difficulties mentioned by men were more focused on relational abilities and sexual orientation confusion while women's difficulties were rather related to sexuality. In order to cope with these consequences, participants evoked various positive strategies that can relate to cognitive and behavioural changes. Men's strategies focused on a renegotiation of their intimate relationships by setting their boundaries and challenging masculinity standards, while women reported strategies focused on reclaiming their sexuality and asserting sexual needs.

2.1 Knowing one's own challenges: Figuring out the consequences of CSA on intimate relationships and sexuality. All participants across studies mentioned that they had to figure out the consequences of CSA within their intimate and sexual life as a part of their recovery process. Many survivors across studies mentioned that CSA has led them to be distrustful with others in addition to having difficulties in establishing close relationships. Several participants also mentioned that sexuality was painful and unpleasant, filled with a sense of guilt and shame. Men participants had a tendency to build a protective wall around them to avoid reliving vivid painful emotions. They also reported difficulties in being touched, communicating with their romantic partners, accepting love and care, a confusion in their gender identity or sexual orientation, as well as avoidant or compulsive sexual behaviours. Women evoked sexual self-objectification and a disinhibited sexuality involving multiple casual partners as part of the consequences of CSA. A woman also reported the explicit expectation that her romantic partners would inevitably be violent or abusive with her. Thereby, as illustrated by a man's narrative, the consequences of such experiences may have led survivors to use protection strategies in order to survive:

> "All of the trusted figures around me either vanished or abused me in some way, and I can't trust them and therefore I got to do this myself, so pulling in and building walls, building a shell, a protective shell. So that protective shell has been very important… It's part of how I survived" (Martin, cited in Kia-Keating et al., 2010).

Participants reported that figuring out the consequences of CSA on their intimate relationships and sexuality prompted them to overcome their difficulties and adjust their vision as well as their behaviours in their relational and sexual lives. Thereby, the recognition of these consequences served as a starting point to make personal changes within their relational and sexual lives: "I just reached a point where I said I am sick of living, being promiscuous, being a pushover. At that point, I found my strength" (40-year-old woman, cited in Roller et al., 2009). The desire to make personal changes within their relational and sexual lives was also manifested by a need to more deeply understand the consequences. For example, a participant characterized the consequences of CSA experiences as "a mess… a cycle that becomes overwhelming", which led him to do "intense analysis" in order to tackle his abuse (54-year old men, cited in Roller et al., 2009).

2.2 Recognizing and accepting one's own limits: Setting boundaries in intimate relationships. Male participants across studies asserted that they were able to recognize and accept their personal limits within their intimate and sexual relationships, which were mostly related to their difficulty with proximity and mistrust. A man reported that setting boundaries with women contributed to a greater sense of well-being:

> "Say no to a woman as an adult. I mean I've gotten better with that; now I can set boundaries and stuff like that… Now there's a lot of things I can talk about or do that most men can't do, and that tends to work out pretty well. And part of it is being able to say my boundaries and what I need. As long as a woman can handle those things, we're ok" (Brad, cited in Kia-Keating et al., 2005).

2.3 Reclaiming sexuality: Redefining sexuality to better assert it. In order to achieve a more satisfying relational and sexual life, several survivors, which are mostly women, named that they had to reclaim their sexuality by adjusting their sexual thinking, attitudes, and behaviours. These changes ranged from acceptation to affirmation.

Accepting and legitimizing the sexual-self. Several female participants across studies addressed issues related to self-acceptance as a sexual being and the learnings they had made over time. A female participant showed how sexuality became a part of her identity: "I see myself as a whole person and I see my sexuality as part of who I am" (Pam, cited in Singh et al., 2013). Several women across studies also stated that they had to give themselves permission to experiment pleasurable sexual activities to overcome the effects of CSA. As mentioned by a woman, this acceptance of her sexual-self led her to change her perceptions toward sexuality: "Seeing [my]self as more than an object and/or a sexual victim. Acceptance of [my]self as a sexual being, not just a sliced-off part of me that was taken, being able to see things in a new filter" (Jessie, cited in Newsom & Myers-Bowman, 2017).

Reframing sexuality. Male and female participants across studies shared that they had to adjust their perspective regarding intimacy and sexuality in order to cope with the challenges they were facing. For many female participants in the study of Newsom & Myers-Bowman (2017), sexuality was no longer perceived as something painful, unwanted or unhealthy: "Sex is desirable in romantic relationships. It is healthy for the most part" (Lucie, cited in Newsom & Myers-Bowman, 2017). This reconceptualization of sexuality led them to adjust their sexual self-perception: "Once my mentality changed, my sexual image [of me] changed" (Anna, cited in Newsom & Myers-Bowman, 2017). Several men across studies evoked that they had to redefine masculinity and their perception of manhood in order to improve their sexual well-being. A participant explained how male sexual standards can be challenged by adopting norms considered to be typically feminine: "The actual physicality of sexuality was irrelevant. Everything, the entire experience was totally on the context. It was very, in our society, a very non-male way of looking at sexuality. What experiences were best . . . that I like the person, that I feel safe, you know, like, trust, cute, cuddly, sweet" (Morgan, cited in Kia-Keating et al., 2010).

Connecting to one's own intimate and sexual needs and desires. Female survivors across studies recognized the importance of connecting to their needs and desires within their intimate relationships and sexuality. A woman from the study of Roller et al., (2009) explained the switch she had made regarding her perceptions about sexuality during introspection: "I would stay [in relationships] because I wanted to please them [men]. Now I don't worry so much about pleasing them, I'm worried about how I feel... I worry about if it is good for me". As stated by another woman, connecting to oneself also means there is no longer the strict need to please intimate partners to stay authentic:

> "I always saw myself as an adjunct to someone else before, especially my father and it was very necessary to please him… I kind of carried that into adult life… dealing with the trauma has made other people irrelevant in the sense that I don't need to be a part of them, they can either accept me or reject me for who I am'' (Kate, cited in Hartley et al., 2016).

Asserting and negotiating intimate and sexual needs. Several women and a few men across studies state that despite the sexual difficulties they endured, they now tend to express more openly about their intimate and sexual needs or desires, as well as being better able to negotiate sexuality with their partners. A male participant reflected upon the way he was able to express his personal limits within his relationships:

> ''I still have an issue about intimacy. I'm intimate, but then again sometimes, I have my bad days where I don't want to be touched… And I let them know it is not you, it has nothing to do with you. I'm just in one of those… I just don't want to be touched today'' (Alejandro cited from Kia-keating et al., 2005).

Assertiveness in intimate relationships emerged in the survivors' discourse as a key aspect fostering self-confidence. To demonstrate this point, a woman survivor expressed the fact that she no longer felt vulnerable in presence of men, which had led her to become more assertive:

> ''I have always been really scared of male attention or male kind of anything… it was kind of 'oh my God it's a boy'… I guess I felt very vulnerable, whereas I don't feel vulnerable now, I feel more… confident within myself, I'm more assertive (Parul, cited in Hartley et al., 2016).

2.4 Seeking support from therapy: Learning about and voicing intimacy and sexuality within a safe space. Men and women across studies indicated that they sought support from a professional in order to tackle the challenges they faced especially within their intimate life. Some women across studies evoked that they found it useful to consult a therapist to address their sexual issues. As reported by some men, therapy constituted a safe space to address trust issues. One male participant explained how the bond he developed with his therapist contributed to heal his broken trust:

> "Trust is a miracle. I've never trusted anybody. And it's the biggest single by-product of my therapy, just learning that I can sit in a room with another person and they don't have any desire to abuse me. It's a big deal" (Bill, cited in Kia-Keating et al., 2010).

2.5 Engaging in a supportive community: Giving back to others to help oneself recover. After finding strategies to overcome their own relational and sexual difficulties, some survivors engaged in a supportive community to provide guidance to other trauma survivors. A woman stated that she is committed to make a difference and help other women that are still struggling with sexual difficulties:

> "I feel like my sexual power has come from being able to claim it for myself and simultaneously offer it to others. To be able to root myself in this community of women who say, 'sex is positive, desire is positive.' As long as it is healthy for you, feels consensual, and you are able to openly communicate your desires in whatever ways… then the world is wide open in terms of sex and sexuality… It meant being able to own who I really was and do that in a context without shame. Now I give other women the same opportunity" (Nina, cited in Hitter et al., 2017).

The process of helping others also played a role in the recovery process, as illustrated in the following man's narrative: "It will help me to reclaim my own body and help me to teach other people to reclaim theirs" (Bill, cited in Kia-Keating et al., 2010).

3. Social circumstances that facilitate or hinder the relational and sexual recovery process

Positive intimate relationships were reported as a key factor promoting the relational and sexual recovery process of several men and women across studies. Survivors explained that they had to cope with stereotypical gender norms and social oppression present within society, which may hinder their relational and sexual recovery process. Thus, their recovery process illustrates a duality between their determination to overcome relational and sexual issues related to past CSA experiences and the social circumstances that may modulate this process.

3.1 Facilitator to recovery: Caring intimate relationships. Many female and male survivors across studies reported positive and caring intimate relationships as a central aspect fostering their recovery process. A woman expressed how the support from her romantic partner allowed her to feel more empowered: "I felt empowered in my relationship. He [her boyfriend] gave me the freedom to use my voice and respected and valued it" (Suzy, cited in Newsom & Myers-Bowman, 2017). Survivors also described how healthy and trustworthy intimate relationships promoted a place for safety, love, and acceptation, while those same feelings were violated during the abuse. Being surrounded by an intimate partner who believes in them, who is loving and caring, was reported as fostering healing by a male survivor: "I feel that having someone who loves me, believes in me, is willing to fight for me, who sees me as heroic, who sees me as a gifted and wonderful person is extremely affirming... that is a healing presence" (Doug, cited in Crete & Singh, 2015). Since many survivors experienced a fear of being blamed or not being believed, it was more difficult for them to disclose CSA experiences to their partners. Yet, the context of a caring intimate relationship seemed to facilitate disclosures and turned them into a positive experience:

> "When I disclosed to him, I thought he'd blame me, but one major relief to me was that he didn't ... I thought 'oh my God he's not blaming me, maybe it's not my fault', very confusing, one of the things was that he was totally understanding towards me" (Carla, cited in Hartley et al., 2016).

3.2 Hindrances to recovery: Traditional gender standards and social oppression. The discourse of some survivors across studies highlighted that traditional gender standards can hinder their process of relational and sexual recovery. As expressed by one woman, when they do not correspond to femininity standards, it can impair their body image:

> "I still struggle… I live in a culture where I am the antithesis of what a woman is supposed to be. I'm a fat dyke. I've been fat pretty much my whole life. For a long time, I was totally ashamed of my body,

> and of what my body looks like, because it didn't look like what it's supposed to look like. To unlearn that has been one of the most difficult things for me outside of the sexual abuse" (Nina, cited in Hitter et al., 2017).

Analysis of men's narratives shows that traditional standards of masculinity tend to affect their relational and sexual recovery process because of the feeling of stigma they can induce. A male participant voiced how men that are struggling with their sexuality, as a result of the CSA, must also cope with the shame associated with not conforming to valued masculine standards: "We [men] have an extra layer of shame and everything else because after all, we're supposed to enjoy [sexual intimacy]… and we're supposed to be strong enough to be able to just like fight it off or something" (Bill, cited in Kia-Keating et al., 2005).

Hindrances in the relational and sexual recovery process of female survivors were mostly expressed by African American women in the study of Singh et al., (2013). They discussed an intersection of stigmatizing experiences, being a Black woman and having experienced CSA, which have impacted their sexuality. One woman underscored social oppression, such as being treated disrespectfully and unequally regarding sexuality by her entourage at a younger age. As this woman attests, even if social oppression seemed to affect their process of recovery, they became more aware of themselves as a sexual being, which promoted their resilience:

> "Just as a young Black girl there are lots of messages anyway about sex and sexuality. Both I think from the outside that even as a young child I remember being very sexualized. Even teachers in school would make comments about my breasts as they were developing or how shapely I was. I probably developed quickly. Just adults, or even just random people would comment, even touch me. I don't think necessarily sexually but in ways that made me very aware of myself as a sexual being, which I tend to think happens more to women of color" (Simone, cited in Singh et al., 2013).

Discussion

This metasynthesis portrays the complex relational and sexual recovery process of CSA survivors. Results highlight that survivors will go through different stages of recovery from CSA experiences and their relational and sexual impacts. These stages can occur simultaneously or at different periods of their life, following a progression from the drive to move forward to the mobilization to use strategies to recover and the social circumstances surrounding recovery. Also, the process may involve stepping backwards (e.g., survivors may develop strategies to deal with their sexual and relational difficulties, but may still find it difficult to implement and maintain these strategies over time, which leads them to relive those difficulties).

More precisely, participants evoked a need to address and make sense of the experienced CSA (i.e., CSA Awakenings), along with the hope and self-determination to get over these painful experiences. These turning points emerged as pivotal to recover from relational and sexual difficulties and may serve as prerequisites to psychological and behavioural changes. Then, recovery strategies such as self-knowledge, acceptance, affirmation, and connection to one's sexuality were reported as offering a precious basis from which CSA survivors may renegotiate intimacy and sexuality within themselves and in interpersonal contexts. Seeking support from help providers, such as a therapist, also appears to be an important strategy promoting a sense of security. The therapeutic context may also constitute an opportunity for survivors to voice and make sense of their mental states and interpersonal world (i.e., mentalization), which in turn promotes sexual and relational functioning (MacIntosh et al., 2019). Finally, creating a healthy and supportive relationship with an intimate partner and giving back to people with whom they shared common experiences creates a sense of safety, belonging, and accomplishment in survivors and enables the development of a supportive network, which in turn contributes to their own recovery process (Kia-Keating et al., 2010). Indeed, positive relationships that involve support and emotional depth can provide a space to explore healthy relational dynamics and a protective effect associated with more adaptive functioning in CSA survivors (Afifi & MacMillan, 2011; Trickett et al., 2011). For many survivors, CSA disclosure occurs unintentionally in the context of sexual relationships with their partners, often prompted by flashbacks and dysfunctions. Yet, as reported by MacIntosh et al., (2016), the partner's positive responses to disclosure promote recovery (e.g., decreasing feelings of shame), while negative responses hamper it (e.g., increasing feelings of shame, negatively impacting help-seeking). Overall, support from the intimate partner, but also from friends, family members, survivor groups or therapists is essential for building strong relationships and for recovering (Howard Sharp et al., 2017). However, some social contexts may hinder the recovery process, including those leading to stigma and oppression. Results showed that being a survivor of CSA as well as thinking and

behaving outside the norms of hegemonic masculinity may induce an extra layer of shame in male survivors (e.g., negative feelings, gender role conflicts; Alaggia & Millington, 2008; Easton, 2014), which also constitute barriers to disclosure and help-seeking (Alaggia et al., 2019). Additional stigma can also be induced by experiencing different forms of oppressions, such as sexism and racism among African American women (Singh et al., 2013). Thus, for both male and female survivors, stigma appears to be intimately related to social circumstances and conflict with the prevailing norms. Finally, the narratives of men show that their challenges and coping strategies are mainly related to relational difficulties, while women's discourses were more focused on sexual difficulties and empowerment, indicating potential gender specificities in their relational and sexual recovery process.

Strengths and limitations

This metasynthesis enriches the actual body of knowledge by identifying key aspects of the process of recovering from CSA and its consequences on intimate relationships and sexuality. An important contribution of this metasynthesis is that it allows for the substantiation and conceptual extension of *The Drive to Move Forward Framework* (Ochocka et al., 2005). The recovery process identified in this study highlights the hierarchical but iterative nature of the framework's components and suggests the importance of considering coping strategies that are specific to relational and sexual difficulties. This metasynthesis meets scientific criteria of qualitative studies in many ways, which reinforce the credibility of the findings (Noble & Smith, 2015). For instance, the researchers' reflexivity on personal bias has been described, trustworthiness was fostered by inter-rater reliability, a detailed description of the data analysis as well as repeated meetings with other researchers ensured a common understanding of the results, and the use of a conceptual framework taking the previous work on the subject into account while allowing new discoveries promoted the credibility of the findings.

Results of this metasynthesis should also be appreciated while taking into account its limitations. Firstly, a directed analysis based on a conceptual framework tends to suppress interpretive creativity and may reduce some of the vividness of insight seen in qualitative research; researchers may not consider the data that does not fit within the framework (Dixon-Woods, 2011). However, the hybrid approach used in this metasynthesis (i.e., using a conceptual framework to analyze the data and integrating data and potential categories that did not fit the framework; Elo & Kyngäs, 2008) may temper this limit. Secondly, data saturation (i.e., when the data collected no longer provide new insights on a topic, which leads researchers to cease data collection; Faulkner & Trotter, 2017) could not be achieved for all conceptual categories, as this metasynthesis relied on topics covered in published studies. Likewise, some conceptual categories or subcategories were addressed primarily by women (e.g., reclaiming sexuality), while others were approached rather by men (e.g., accepting one's own limits). However, further study is needed, especially on male survivors, to better understand gender specificities. Thirdly, few studies have documented social factors involved in the recovery process of CSA survivors, suggesting the need to investigate them in more depth. Fourthly, selected articles were conducted in Western Countries, which probably obscures the experiences of participants from different ethnic backgrounds and environments.

Implications for practice

Several recommendations for practice can be proposed. Firstly, since relational and sexual difficulties are likely to emerge in adolescence who have sustained sexual victimization (Byers et al., 2019), it is important to provide well-tailored interventions from an early age. Upstream interventions could prevent the crystallization of relational and sexual difficulties among survivors. Providers working with adult CSA survivors should provide a personalized approach that respects their process of relational and sexual recovery. Tailored-interventions may provide self-reflective activities regarding intimacy and sexuality, as well as behavioral-oriented activities promoting empowerment and assertiveness. In addition to fostering relational and sexual well-being in survivors, strengthening their sexual assertiveness could help reduce revictimization risks (Livingston et al., 2007). Secondly, since CSA often occurs in the context of attachment relationships, recovery may be fostered in the context of positive romantic relationships. Romantic partners are often privileged confidants or allies for survivors, and for that reason they should be included in the therapeutic process. Partners could be informed about the consequences of trauma and possible strategies to optimize the intimate relationship and sexuality (Berthelot et al., 2014; MacIntosh et al., 2016). Thirdly, relational and sexual recovery is a complex process that must be assessed and borne according to an ecological approach. CSA survivors can undergo other traumas and oppressions (e.g., racism, sexism) and thereby experience social stigma, which can exacerbate their relational and sexual difficulties. Providers working with this population would benefit from adopting an intersectional approach as well as a social justice perspective that would grasp the impacts of multiple oppressions on the survivors'

recovery process (Singh et al., 2013). Fourthly, men and women present common relational and sexual issues related to CSA experiences, but are also subject to gender-based sexual standards. In this regard, they are likely to experience distinct outcomes and healing strategies (Graves et al., 2017). Men's recovery process seem to be facilitated when therapists promote survivors' gender self-acceptance and encouraging them to reflect on cultural representations of men in modern society (Crable et al., 2013; Graves et al., 2017), while promoting sexual agency and empowerment are documented as helpful therapeutic targets among women (Hitter et al., 2017). Thus, therapists should provide gendered tailored-interventions and gender-responsive care to meet the needs of CSA survivors.

Conclusion

This metasynthesis shows that CSA survivors demonstrate relational and sexual resilience, even if their process of recovery encompasses setbacks. Male and female survivors were found to face gender-specific issues, supporting the relevance of tailored-intervention for this population. Findings also highlight the importance of developing interventions that take into account the social resources of survivors and the social contexts that can facilitate or hinder their recovery process. While there is a need to conduct more studies to deepen our understanding of the mechanisms CSA survivors deploy to face intimacy and sexually related challenges, findings of this metasynthesis are promising and encourage CSA survivors to remain hopeful in the journey back to their wholeness.

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Instagram as a knowledge mobilization platform for youth resilience research: An exploratory study

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Abstract

Objectives: Social media (SoMe) is globally prevalent, but its relevance for disseminating sensitive topics, such as violence victimization and mental health among adolescents and emerging adults, remain under-researched. Youth-dominate platforms may be well-suited for resilience messaging on safety, health, and well-being, and exploratory knowledge mobilization research. Research from a common team funding source supported a secondary objective that thematically linked research could be used to impact dissemination.

Methods: This experiment utilized an ABA design, with a two-week baseline, followed by SoMe posting on weeks "A" and no posting on weeks "B" from a single Instagram account. During posting weeks, image-based messages from nine open access articles, from a risk and resilience research team, were posted three times per day. Each post contained a link to the associated open-access research article. Outcome dissemination indices, collected weekly, were reads of the referenced articles on a research-based networking site, ResearchGate.

Results: Instagram indices formed the basis of our manipulation check. Relative to periods of inactivity, periods of active Instagram engagement led to significant increases in the number of Instagram impressions, website clicks, and followers, and in the number of reads of the posted ResearchGate articles.

Implications: As the first study to examine Instagram impact for risk and resilience research, these findings encourage further SoMe work in this area of high public health import.

Keywords: Instagram; knowledge mobilization; research impact; social media; youth; risk; resilience; public health.

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Introduction

The adolescent to young adult time period is one that benefits from the promotion of resilience, given the multiple changing roles (i.e., entry into romantic relationships, labour market, higher education, etc.). Resilience has been described as an individual's capacity to access resources during adversity in ways that promote their health and well-being; it is contextualized with surrounding socio-cultural opportunities or lack thereof (Ungar, 2008). To support youth development in contexts of adversity, youths' inner resourcefulness is amplified by availability and access to environmental resources (Wekerle et al., 2011). Resilience-focused support may smooth transitions and assist in maintaining stable emotion regulation and cognitive organization (Ungar & Theron, 2020); this would facilitate addressing challenging life circumstances in which youth or the peers they wish to support may find themselves. From adolescence to emergent adulthood, which have been defined as age ranges 10-19 and 18-25 respectively, the brain regions responsible for decision making and the regulation of social behaviour are developing, and risk of the development of psychological problems is heightened (World Health Organization, 2018; Arnett, 2000; Lamblin et al., 2017). Youth are also moving towards greater autonomy and independent decision-making, which extends to their healthcare and wellness: about one-fifth of youth are seeking information online regarding hard-to-discuss topics, like sexual disease, mental health, and substance use (Lenhart et al., 2010).

There are many issues with which youth are contending. For example, the 2017 US Center for Disease Control's Youth Risk Behavior Survey reported that 11.3% of females and 3.5% of male students have been physically forced into having sexual intercourse (Kann et al., 2018). Among youth who identified as gay, lesbian or bisexual, this rate was much higher (21.9%), as well as among those who were questioning or "not sure" of their sexual identity (13.1%). Other data shows that in the prior 12 months, 9.7% of students reported being "forced to do sexual things that they did not want to do" (Ortiz et al., 2018). Among youth involved in a dating relationship in the prior 12 months, sexual dating violence was reported by 6.9%. Further, a staggering 31.5% of students reported feeling sad or hopeless almost every day over the prior two weeks, such that they stopped doing some of their usual activities (Kann et al., 2018). In a similar vein, 30% of Ontario youth reported elevated stress or pressure in their lives, and 39% reported distress symptoms (i.e., anxiety and depression symptoms) at a moderate-to-severe level. Youth are clearly reporting salient and significant adversity, and social media (SoMe) may be a tool for their resilience. As such, this study explores the Instagram social networking platform as a potential knowledge mobilization tool for youth health risk and resilience research.

Youth interaction with SoMe

Theoretically, Bronfenbrenner's ecological approach (1979) has been commonly used in resilience formations (O'Connell et al., 2009), as it takes into account how ecological systems interact with and around the individual to elevate risk or promote resilience through external factors and processes (e.g., the family context, social relationships, societal and cultural values, etc.; Mustanski et al., 2011). Within ecological theory, the individual interacts and establishes their identity within multiple microsystems (i.e., interpersonal relationships and roles within their immediate setting; e.g., home, school, and their community), mesosystems (i.e., settings in which microsystems interact), exosystems (i.e., interactions among two or more of the settings, where the individual is not directly involved with at least one of these settings), and macrosystems (i.e., organization and culture) (Bronfenbrenner, 1979; Bronfenbrenner, 2005). With the rise in availability and accessibility of technology and digital platforms, especially among adolescents and emergent adults, Bronfenbrennor's ecological model (1979; 2005) must be expanded to consider how SoMe has become interwoven throughout and interacts with these systems (Eaton, 2014). According to recent data, 95% of adolescents have access to a smartphone (Pew Research Center, 2018a) with 54% reporting that they spend "too much" time on them (Pew Research Center, 2018b). O'Keeffe and Clark-Pearson (2011), found that 22% of young adults visit SoMe sites more than 10 times daily. Ninety-two percent of youth reported to the Pew Research Centre that they use the internet on a daily basis. Twenty-four percent out of those 92% described being on their SoMe accounts 'constantly' (Lenhart, 2015). With SoMe, most adolescents (71%) are using more than one platform (Lenhart et al., 2015). The various SoMe platforms (e.g., Instagram, Facebook, Snapchat, Twitter, TikTok, YouTube) may be perceived as microsystems in which the individual learns to navigate their constructed identities. These platforms interact with other systems that the individual is connected to, such as school or home (i.e., mesosystems) and, ultimately, shape youth culture, ideals, values and beliefs (i.e., macrosystems) (Easton, 2014).

A qualitative study of SoMe users has identified 10 key uses and gratifications for SoMe: 1) social interaction; 2) finding information on different topics; 3) passing time, 4) entertainment, 5) relaxation; 6) communication; 7) convenience; 8) to express opinions; 9) information sharing; and 10) checking up on others and gaining knowledge

about them (Whiting & Williams, 2013). SoMe use among youth has been associated with growth of ideas, development of self (Ahn, 2014; Rushing & Stephens, 2011; O'Keeffe & Clarke-Pearson, 2011; Valkenburg et al., 2006). Within the context of adversity, resilience has been defined as "both the capacity of individuals to navigate their way to health-sustaining resources, including opportunities to experience feelings of well-being, and a condition of the individual's family, community and culture to provide these health resources and experiences in culturally meaningful ways" (Ungar, 2008, p. 225). This definition emphasizes culturally meaningful means of access. For youth, new media has been ingrained in their identity formation and has transformed youth culture (Zemmels, 2012).

SoMe as a tool for youth knowledge mobilization

Youth tend to prefer more informal sources of support in terms of information, communication and help-seeking (D'Avanzo et al., 2012; Pretorius et al., 2019). In fact, 39% of students report that they do not talk to parents about their problems or feelings (Boak et al., 2017). Advice and support are being sought out by youth through digital channels such as text messaging, private messaging, and online chats (Child Helpline International, 2014). A report from Childline (i.e., a UK children's helpline) indicates that 78% of young people that contact their services, do so online (Frith, 2017). SoMe has quickened the speed of access to health information and holds promise for public health as it is cost-effective, publicly accessible, and relatively low-effort in terms of maintenance (Dowshen et al., 2015). While females have been shown to be more likely to search online about uncomfortable health topics (Lenhart et al., 2010), one study of adolescent males found that 48% were using SoMe sites to retrieve health-related information (Best et al., 2016). It is believed that this increase in SoMe use by youth may be associated with the convenience and anonymity of accessing stigmatized health information, such as sexual infections, substance use, or sexual victimization (O'Keeffe & Clarke-Pearson, 2011). In a nationally representative survey of US adolescents, stress and anxiety were the third most commonly searched health-related topic, after exercise and diet/nutrition (Wartella et al., 2016). Additionally, among youth who searched for health information online, 34% reported changing their behavior, based on the information found. For older adolescents (15-18 years) and emerging adults, health analysis on scalable interventions suggests a mixed approach of involving community, media and health systems, where media messages on healthy lifestyle choices at the population level, would be supported by school-based programming, community services, and primary health care (Bundy et al., 2017).

Using SoMe for youth resilience promotion

Informational self-efficacy is both a key public health literacy approach, as well as a facilitator of youth resiliency skills. Resilience is critical to achieve positive health outcomes as individuals face various developmental transitions. Most SoMe health campaigns or interventions that have been studied have focused on sexually transmitted infections, sexual health and male health initiatives (e.g., Bull et al., 2012; Lenhart et al., 2010; Ortiz et al., 2018; Zenone et al., 2020). In one nationally representative US study of 1337 young people (age 14 to 22), 90% of participants with moderate-to-severe depressive symptoms endorsed going online for information on mental health issues (Rideout et al., 2018). They were also nearly twice as likely (25%) to report that SoMe connects them to useful advice and supports when experiencing feelings of depression, anxiety, and/or stress, in comparison to those with no mental health symptoms. Additionally, they were more likely to report that SoMe was 'very important' to them for feeling less alone (30%), getting inspiration from others (27%), and expressing themselves creatively (26%). A systematic review of online and SoMe interventions for young people with depression found evidence toward the effectiveness of online interventions, especially those that utilize cognitive behavioural therapy principles (Rice et al., 2014). However, they noted that SoMe intervention evidence in this domain is limited due to poor methodological design and very few interventions having been developed to date. Studies have found SoMe platforms such as Instagram, Facebook, Twitter, Reddit, and Tumblr to be effective in recruiting participants with mental health concerns (Szlyk et al., 2020), thus reinforcing the notion that these platforms may be opportune in engaging users with mental health and resilience promotion information.

Qualitative interviews with LGBTQ adolescents, aged 18 to 22 ($n = 19$), revealed four resilience strategies that were fostered through their use of media and SoMe forums: 1) coping with daily stressors or stigma through escapism; 2) feeling stronger through suicide prevention, instructional videos and learning and identifying positive role models; 3) fighting back by commenting on and creating content about discrimination, homophobia and transphobia; and (4) finding and fostering community (Craig et al., 2015). The linkages between SoMe and resilience have been studied in other domains such as student resilience, resilience following natural disasters, and within remote Indigenous communities (Sigalit et al., 2017; Dufty, 2012; Taylor et al., 2012; Kaufmann, 2015). For example, several research studies have examined how SoMe promotes resilience in crisis situations and natural disasters through gathering and

disseminating information, collaborative problem-solving and increasing sense-making, and the use of positive coping strategies such as community connectedness (Jurgens & Helsloot, 2018; Taylor et al., 2012; Kauffman, 2015). However, to our knowledge, the use of social media for the dissemination of adolescent resilience-oriented content has not yet been investigated.

The promotion of resilience-based information through SoMe has the potential to engage youth in a way that is part of the fabric of their social lives. One SoMe health campaign used many text- and visuals-based SoMe platforms to spread information about adolescent dating violence (Lambert et al., 2014). Effectiveness of the campaign was measured by frequency of visits to the posted content. The researchers found that using technology appropriate for the target age group, timing of message delivery, length, context, and type of message were critical factors in engaging their target population. The topic of sexual violence victimization was the primary focus in another recent Twitter study demonstrating that actively engaging followers with posts and the sharing of research could be effectively used to direct users to other online sources (Wekerle et al., 2017). In this study, Twitter postings with links to the articles on a research-sharing site (i.e., ResearchGate) led to an increase in the number of downloads and citations, as compared to timeframes where no postings occurred. These findings suggest potential for use of SoMe in the youth resilience field.

The popular visual-based SoMe application, Instagram, provides a potential avenue to share health-related risk and resilience messages with the public. This platform is especially well-suited to adolescents and emerging adults, given that 73% of youth, aged 12-24 years, report using it (Edison Research & Triton Digital, 2017). Instagram is an online photo-sharing networking service that allows users to capture, edit, and share photos and videos with their followers as well as other users using their mobile devices (Sheldon & Bryant, 2016). Users must create an account with an attached handle (to heighten privacy) with which they can follow the accounts of individuals and organizations to view their posts (Hu et al., 2014), as well as having private settings where would-be followers need to be invited. Image posts can be captioned with a brief description or message, and up to 30 hashtags. Hashtags are words prepended with '#' that are used on popular social media platforms (such as Instagram, Facebook, and Twitter) to identify the content of the picture with which they are paired, therefore allowing users to search for posts that they are interested in and potentially increase the visibility of a user's post by allowing other users to more easily locate it (e.g., #youth, #resilience, #sexualviolence, #lifestyles, #health) (Giannoulakis & Tsapatsoulis, 2016; Hu et al., 2014). Hashtags can also be used as a tool to gage topic interest by examining the number of followers for related hashtags and selecting high-usage hashtags.

Few studies, however, have been conducted using Instagram for knowledge mobilization purposes. One study aimed at improving knowledge and testing for sexually-transmitted infections and HIV among youth aged 13-17 years (Dowshen et al., 2015). The number of account followers on Instagram was used to measure the success of the campaign in engaging with the target population. The large number of followers showed the feasibility of such an approach; however, this outcome measure is problematic as a sole index of engagement, as users who do not follow the Instagram account may still view, comment, like, tag friends' accounts, or send the post to others, yet are not counted when followers is used as the outcome. Research on an adolescent male health initiative campaign found that engaging young people with both print media posters and social media posts on Instagram and Snapchat and linking to the campaign resources, increased their website traffic by 70% and increased awareness of the program in the target populations by 10 to 15%. On Instagram alone, the campaign posts were viewed by over 170,000 individuals and the resource website link was clicked approximately 2467 times (Zenone et al., 2020). Another study looked at the impact of sharing sexual health information on Instagram using four different methods: 1) adding text to a background image; 2) posting a related image with the sexual health information in the description; 3) posting the sexual health information in both the photo and the description; and 4) posting a photo with no text information. They showed that adding text to a background image received the highest perceived message effectiveness ratings (O'Donnell & Willoughby, 2017). Few SoMe studies have been conducted examining engagement through the sharing of academic research with members of the public outside of academia, and particularly in terms of the sensitive health content that adolescents and emerging adults seek (Zardo et al., 2018).

The current study

This exploratory study was conducted to investigate the effectiveness of Instagram as a knowledge mobilization tool for sharing research information about risk and resilience in youth. Research-based posts, linked to an open-access article available on an article sharing platform, ResearchGate, were shared on Instagram, and the level of engagement by users was measured. Non-research article posts on resilience were also shared on Instagram as a method for raising public interest in the topic of resilience. This study sought to examine the utility of Instagram for engaging users with research-based posts, and the research upon which the post was based. Given the demonstrated need and level of interest among youth, it was hypothesized that users would engage with research-based posts on Instagram, and thus be motivated to further access the associated, linked articles on ResearchGate. The number of times the Instagram posts were viewed by Instagram users was utilized as a manipulation check of the Instagram "On" and "Off" conditions. The number of reads for each associated article on ResearchGate were tracked as outcomes to measure effectiveness in engaging users with research on sensitive risk and resilience topics.

Methods

Participants

The design of this study is such that the unit of analysis is the research articles being linked to from the posts within the "Instagram On" condition (n = 9). The characteristics of the users that followed the @resilienceinyouth account are described within the results section.

Measures

Analytics were collected weekly throughout the experiment at 12:00 a.m. each Monday (which marked the start of each new experimental week) from both Instagram and ResearchGate.

Instagram Insights (the analytics package for Instagram) was accessed to collect data from one Instagram account, @resilienceinyouth, newly set up to share thematically linked resilience research (trauma and coping) from a single, federally funded team of researchers, with a unique hashtag (#CIHRTeamSV). Three sets of information from the Instagram Insights tool was collected: 1) impressions (i.e., the total number of times the Instagram posts have been seen); 2) website clicks (i.e., the number of times individuals clicked on the link embedded in the Instagram post); and 3) followers (i.e., total number of Instagram followers). A baseline (pre-posting) measurement for each of these variables was taken to help ensure that any change in engagement was due to the Instagram posting experimental manipulation.

From ResearchGate, the number of reads for all articles shared via Instagram during the experiment was collected each week, in order to observe how effectively knowledge shared on Instagram facilitated traffic to ResearchGate (see Table 1 for the list of articles and links to ResearchGate). The criteria for choosing the articles listed in Table 1 were: a) to be recent (published between 2015 to 2018); b) to be open access; c) to be from one of the CIHRTeamSV research leads. This provided us with nine eligible articles to disseminate. A baseline measurement for the number of reads of each article was taken to help ensure the change in engagement was due to the Instagram posting, as opposed to researcher or article popularity.

Materials

Information on the weekly statistics from both Instagram and ResearchGate. Instagram Analytics data were used to determine the level of the participants' activity on Instagram. The Instagram Insights page was accessed by research assistants via the following link: https://www.instagram.com/resilienceinyouth/?hl=en. This link provided data on the number of impressions, website clicks, followers each week which was a cumulative variable (i.e., followers tend to accumulate over time). ResearchGate Stats data were used to determine the level of knowledge mobilization via traffic to ResearchGate articles and as well to the engagement on the posts. The ResearchGate Stats page was accessed for each article (see Table 1). This provided data on number of research interests, number of reads, number of citations, and recommendations on ResearchGate each week which were used as our dependent measures.

Table 1. List of linked open-access research articles used in posts.

#	Article reference	ResearchGate link
1	Smith, M. M., Vidovic, V., Sherry, S. B., Stewart, S. H., & Saklofske, D. H. (2018). Are perfectionism dimensions risk factors for anxiety symptoms? A meta-analysis of 11 longitudinal studies. *Anxiety, Stress, & Coping, 31*(1), 4-20.	https://bit.ly/2msXN2m
2	Keough, M. T., Battista, S. R., O'Connor, R. M., Sherry, S. B., & Stewart, S. H. (2016). Getting the party started—Alone: Solitary predrinking mediates the effect of social anxiety on alcohol-related problems. *Addictive Behaviors, 55*, 19-24.	https://bit.ly/2oSXajl
3	Smith, M. M., Speth, T. A., Sherry, S. B., Saklofske, D. H., Stewart, S. H., & Glowacka, M. (2017). Is socially prescribed perfectionism veridical? A new take on the stressfulness of perfectionism. *Personality and Individual Differences, 110*, 115-118.	https://bit.ly/2iY5WMp
4	Goldstein, A.L., Zhu, J. Y., Kofler, D., Wekerle, C. (2016). Child maltreatment, altered self-capacities and resilience: Testing a moderated mediation model of depression symptoms and alcohol problems in emerging adulthood. *International Journal of Child and Adolescent Resilience, 4*(1), 122-141.	https://bit.ly/2GCu5D0
5	Ellenbogen, S., Trocmé, N., Wekerle, C., & McLeod, K. (2015). An Exploratory Study of Physical Abuse–Related Shame, Guilt, and Blame in a Sample of Youth Receiving Child Protective Services: Links to Maltreatment, Anger, and Aggression. *Journal of Aggression, Maltreatment & Trauma, 24*(5), 532-551.	https://bit.ly/2DctBOb
6	Wekerle, C., Goldstein, A. L., Tanaka, M., & Tonmyr, L. (2017). Childhood sexual abuse, sexual motives, and adolescent sexual risk-taking among males and females receiving child welfare services. *Child Abuse & Neglect, 66*, 101-111.	https://bit.ly/2oQAv7F
7	Hébert, M., Blais, M., & Lavoie, F. (2017). Prevalence of teen dating victimization among a representative sample of high school students in Quebec. *International Journal of Clinical and Health Psychology, 17*(3), 225-233.	https://bit.ly/2FAVh4E
8	Hébert, M., Langevin, R., & Oussaïd, E. (2018). Cumulative childhood trauma, emotion regulation, dissociation, and behavior problems in school-aged sexual abuse victims. *Journal of Affective Disorders, 225*, 306-312.	https://bit.ly/2FqDie5
9	Hébert, M., Moreau, C., Blais, M., Lavoie, F., & Guerrier, M. (2017). Child sexual abuse as a risk factor for teen dating violence: Findings from a representative sample of Quebec youth. *Journal of Child & Adolescent Trauma, 10*(1), 51-61.	https://bit.ly/2oZIkaa

Note. All of the above articles posted on ResearchGate at the time of the study were either open-access publications, or the authors posted pre-print (manuscript) versions of the article to comply with journal copyright requirements.

Procedures

The experiment ran over the course of six weeks (Monday, February 19 to Sunday, March 25, 2018). The Instagram posting campaign was conducted in an AABABA format. 'A' represented "Instagram Off" weeks, where no posting occurred. The first two of these weeks (i.e., February 12 – February 18 and February 19 – February 25) are referred to as our baseline weeks, as these weeks were uncontaminated by prior attempts to disseminate research findings through the Instagram account. During this two-week baseline period, we did not post anything (e.g., links to articles) on the Instagram account. March 5-March 11 and March 19-March 25 were the subsequent two "Instagram Off" weeks. No Instagram posting occurred during these 'Instagram Off' weeks. 'B' represented "Instagram On" weeks, where regular daily Instagram posting occurred. The two "Instagram On" weeks occurred on February 26 - March 4 and March 12 - March 18, respectively. This type of "reversal" design is useful for helping establish that it was the Instagram postings, as opposed to other factors such as the passage of time or some other factor contiguous with posting, that contributed to the measured outcomes (Kazdin, 2011).

There were two types of posts: 1) general resilience information (non-research study specific) and 2) research-specific resilience information. Each day, during the "Instagram On" period, three posts were made in random order. Specifically, one general interest, non-research article post on resilience (total $n = 15$) and two research-based posts specific to a research finding and a research article (total $n = 27$), were published in a randomized order. On one of the 14 days of posting, there were two general interest (non-research study specific) and one research study-specific article posted. For all posts, the description contained 10 standard resilience-oriented hashtags (i.e., #ResilienceInYouth, #Resilience, #Wellness, #WellnessWarrior, #WellnessJourney, #Resilient, #ResilientSquad, #ResilientFuture, #Wellbeing, and #WellnessZone) and five hashtags related to the specific post (e.g., #EndViolence, #Research, #Overcome, #Strength #CIHRTeamSV).

A non-research article post was comprised of an image with a general resilience statement displayed in text over the image. For example, some posts contributed to defining concepts of resilience: "Resilience is learning from your struggles."; "Resilience involves making time for the things you love."; "Resilience is endurance." While the team did not directly study the impact of these posts, they were included in the study to raise Instagram users' interest in the

topic of resilience. The description below the image restated the resilience message and contained 15 relevant hashtags.

A research-based post included an image that shared, in text laid over the image, a resilience-oriented research finding or implication (e.g., "Risk alert: Emotionally abused females are at greater risk of experiencing abuse-related shame"; "Resist the pressure: Having other-oriented perfectionists in your social circle may increase your pressure to be perfect"; "Resilient interventions: Teaching consent is critical – 1 in 5 teen girls reported sexual coercion in early romantic relationships"). These statements were taken from one of nine studies pre-selected to be shared based on the eligibility criteria described above. The description below the image contained the authors' names, title of the article, 15 relevant hashtags, and a link to the article on ResearchGate. This description also indicated that there was a *clickable* link to the article in the @resilienceinyouth account biography page which users could click on to access the article during the "Instagram On" period. Each article was shared three times throughout the experiment, in three different posts with a different research finding or implication provided.

Instagram posts were made at the same three times each day (10:00 a.m., 1:00 p.m., and 5:00 p.m.), with two research article-based posts and one non-research article post per day in a predetermined random order. The order of the posts by type for each day and the order of the research articles being referred to in the research-based posts were randomized. However, we had no control over the order in which our followers actually viewed the posts. This was due to followers' account activity/inactivity, and because Instagram does not display posts in chronological order of posting. Instead, the order of posts displayed in the Instagram feed is based on algorithms unique to each user, resulting from the types of posts they have previously engaged with and posts that users they follow have engaged with.

The account followers were built up before the experiment began by following accounts that were related to child abuse, mental health, and resilience. The @resilienceinyouth account started the study period with 105 followers. Once the baseline week began, the @resilienceinyouth account only followed accounts that had already followed the @resilienceinyouth account first (i.e., a "follow-back") to avoid any interference in the number of new followers since number of followers was a study outcome variable.

Ethics approvals

Aggregated data derived from Instagram was analyzed. Individual user data or comments were not analyzed, thus minimizing the identification of individual users. Information was obtained from Instagram through the public portal (publicly available). The primary study site was McMaster University, with health research governed by the Hamilton Integrated Research Ethics Board, who waived formal ethics review for this study.

Data analysis

In order to conduct the manipulation checks, we examined three Instagram variables: followers, impressions, and clicks. We had two observations for each of three timepoints: baseline, Instagram On, and Instagram Off as described in the method. These data were each submitted to a repeated measures Analysis of Variance (ANOVA) with timepoint (baseline, Instagram On, Instagram Off) as the repeated measures variable. Significant effects of timepoint in the ANOVA were followed up by two sequential paired-sample t-tests comparing baseline to Instagram On, and then Instagram On to Instagram Off, respectively. One-tailed tests were used for these follow-up t-tests given that directional effects had been predicted *a priori*.

The hypothesis testing involved ResearchGate weekly reads (i.e., number of reads of the article referred to in the Instagram post). We had nine observations (i.e., nine research articles that were referred to in the Instagram posts; see Table 1 for the articles) for each of the three timepoints: baseline, Instagram On, and Instagram Off. In order to report weekly reads on ResearchGate, the reads across the two weeks for each timepoint were averaged prior to analysis. Then difference scores were calculated between Instagram On and baseline, and between Instagram On and Instagram Off for each participant. Because ResearchGate weekly reads is a cumulative variable, our main interest was whether the increase in reads was greater for the time when we were active on Instagram (i.e., the difference between Instagram On and baseline) as compared to the time when we were not active on Instagram (i.e., the difference between Instagram Off and Instagram On). We compared these two difference scores using a paired sample t-test. A one-tailed test was used given that directional effects had been predicted *a priori*.

Alpha was set at 0.05 for all ANOVAs and paired sample t-tests. Marginal effects (p = .06) are mentioned. Effect sizes are reported for all analyses using partial eta squared (η_p^2) and are interpreted using the following guidelines: η_p^2 = .01 is a small effect; η_p^2 = .06 is a moderate effect; and η_p^2 = .14 is a large effect (Cohen, 1988).

Results

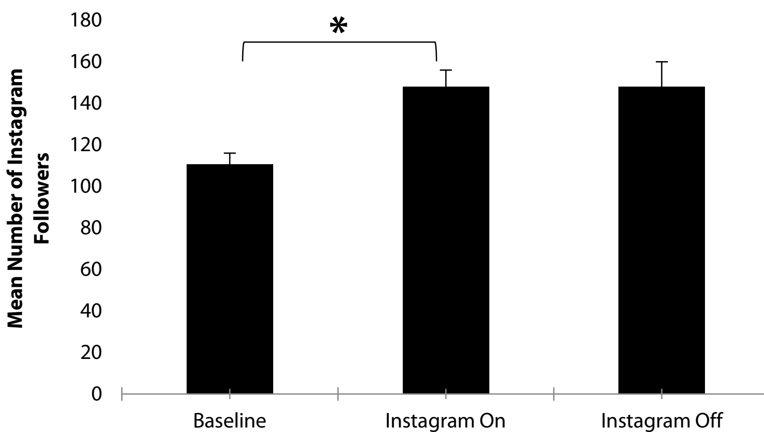
Characteristics of followers

The majority of the account followers were females (71%). With respect to age, the largest category of followers was those in the 18-24 years age range (34%) capturing late adolescence and emerging adulthood; 7% of followers were in the 13-17 years age range of adolescence. The number of Instagram followers was a cumulative variable (i.e., followers tend to accumulate over time).

Manipulation check

Instagram Weekly Followers. Figure 1 shows the mean number of weekly followers at each timepoint (i.e., baseline, Instagram On, and Instagram Off). As can be seen, the data conformed to the expected ABA pattern given that this is a cumulative variable. Specifically, the mean number of weekly followers increased during the "Instagram On" timepoints (M = 148.0 followers) relative to baseline (M = 110.5 followers), and did not increase during the "Instagram Off" timepoints (M = 148.0 followers) relative to "Instagram On", respectively. The repeated measures ANOVA revealed a statistically significant within-subjects effect of timepoint: $F(2, 2) = 43.605$, $p = .022$, $\eta_p^2 = .978$. Paired sample t-tests revealed that there were significant increases of large magnitude in weekly followers for the "Instagram On" timepoints relative to the baseline timepoints ($t(1) = 15.00$, $p = .021$, $\eta_p^2 = .996$; see Figure 1). In addition, there were no further changes (effects of inconsequential magnitude) in weekly followers for the "Instagram Off" timepoints relative to the "Instagram On" timepoints (the number of followers remained constant, see Figure 1).

Figure 1. Instagram Weekly Followers

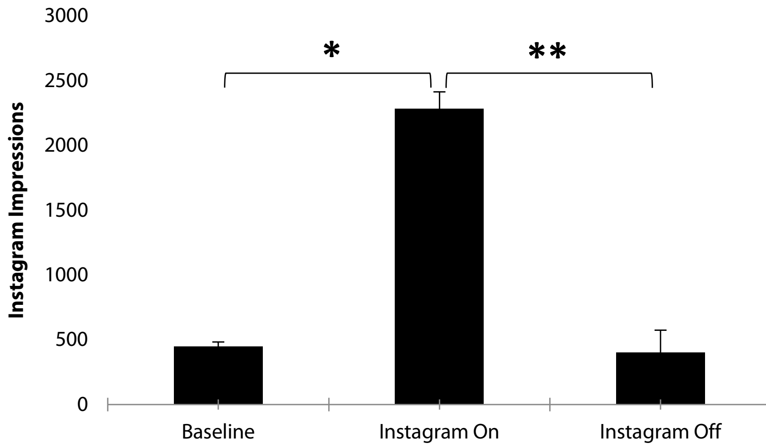


Note. Effects of Phase (Baseline vs. Instagram On vs. Instagram Off) on Instagram Engagement Variable: Mean Number of Weekly Instagram Followers. Error bars represent standard error. Significance of the difference in successive means is indicated via asterisks: *p < 0.05 (one-tailed).

Instagram Weekly Impressions. Figure 1.1 shows the mean number of weekly impressions at each timepoint (i.e., baseline, Instagram On, and Instagram Off). As can be seen, the data conformed to the expected ABA pattern with the mean number of weekly impressions increasing during the "Instagram On" timepoints (M = 2282.0) relative to baseline (M = 448.5) and decreasing again during the "Instagram Off" timepoints (M = 399.5) relative to "Instagram On", respectively. The repeated measures ANOVA revealed a statistically significant within-subjects effect of timepoint ($F(2, 2) = 223.467$, $p = .004$, $\eta_p^2 = .996$). Paired sample t-tests revealed that there were significant increases of large magnitude in weekly impressions for the "Instagram On" timepoints relative to the baseline timepoints ($t(1) = 18.81$, $p = .017$, $\eta_p^2 = .997$; see Figure 1.1). In addition, there were significant decreases of large magnitude in weekly impressions for the "Instagram Off" timepoints relative to the "Instagram On" timepoints ($t(1) = -44.29$, $p = .007$,

$\eta_p^2 = .999$; see Figure 1.1). This pattern of findings supports an effective manipulation in the experimental variable of being active/non-active on Instagram in terms of Instagram impressions.

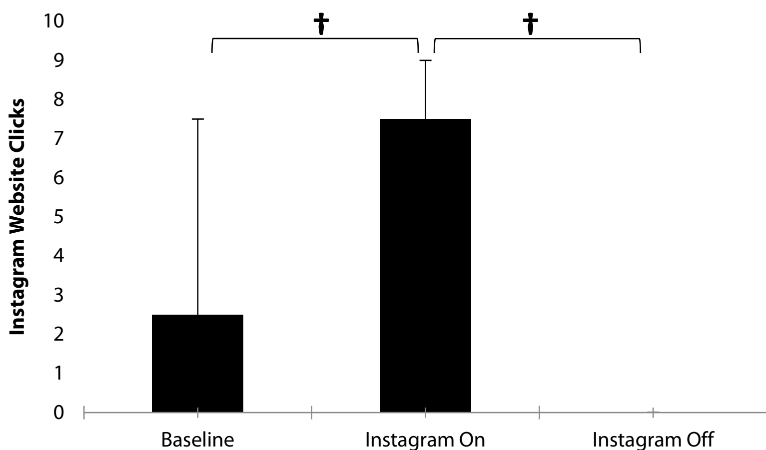
Figure 1.1. Instagram Weekly Impressions.



Note. Effects of Phase (Baseline vs. Instagram On vs. Instagram Off) on Instagram Engagement Variable: Mean Weekly Instagram Impressions. Error bars represent standard error. Significance of the difference in successive means is indicated via asterisks: ** $p < 0.01$; * $p < 0.05$ (one-tailed).

Instagram Weekly Website Clicks. Figure 1.2 shows the mean number of weekly website clicks at each timepoint (i.e., baseline, "Instagram On", and "Instagram Off" periods). As can be seen, the data conformed to the expected ABA pattern with the mean number of weekly website clicks increasing during the "Instagram On" timepoints ($M = 7.5$) relative to baseline ($M = 2.5$), and decreasing again during the "Instagram Off" timepoints ($M = 0.0$) relative to "Instagram On", respectively. The repeated measures ANOVA revealed a statistically significant within-subjects effect of timepoint ($F(2, 2) = 25.00$, $p = .038$, $\eta_p^2 = .962$). Paired sample t-tests revealed that there were marginally significant increases of large magnitude in weekly website clicks for the "Instagram On" timepoints, relative to the baseline timepoints ($t(1) = 5.00$, $p = .063$, $\eta_p^2 = .962$; see Figure 1.2) and marginally significant decreases of large magnitude in weekly website clicks for the "Instagram Off" timepoints relative to the "Instagram On" timepoints ($t(1) = -5.00$, $p = .063$, $\eta_p^2 = .962$; see Figure 1.2).

Figure 1.2. Instagram Weekly Website Clicks.

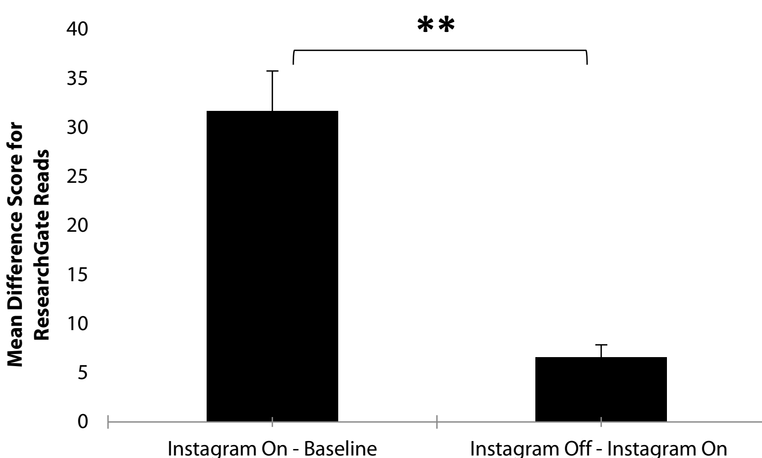


Note. Effects of Phase (Baseline vs. Instagram On vs. Instagram Off) on Instagram Engagement Variable: Mean Weekly Website Clicks. Error bars represent standard error. Significance of the difference in successive means is indicated via symbols: † $p = 0.06$ (one-tailed).

Hypothesis test: Effects of Instagram postings on ResearchGate reads

ResearchGate Weekly Reads. The mean number of ResearchGate reads at each timepoint was as follows: 184.6 (*SE* = 27.73) reads at baseline, 218.8 (*SE* = 29.19) reads for "Instagram On", and 225.4 (*SE* = 29.91) reads for "Instagram Off" periods, respectively. Note that the ResearchGate reads values are cumulative values. Thus, the mean number of weekly reads increased during the "Instagram On" timepoints relative to baseline, as expected, but further increased during the "Instagram Off" timepoints relative to "Instagram On", as well. To determine if there were greater increases from baseline to "Instagram On" relative to the time frame of "Instagram On" to "Instagram Off", we calculated difference scores between each of these timepoints. These difference scores were then subject to a paired samples t-test (see Figure 2) which showed that the degree of increase in ResearchGate reads was significantly greater when Instagram was turned on (relative to baseline), than when Instagram was turned off (relative to Instagram On), and that this difference was large in magnitude ($t(8) = 6.92$, $p < .001$, $\eta_p^2 = .854$; see Figure 2.0). Thus, the increase in ResearchGate reads of the papers that were posted on Instagram was almost five times greater when we were active on Instagram compared to when we were not.

Figure 2. ResearchGate Weekly Reads.



Note. Mean Difference Score for Weekly ResearchGate Reads. Difference scores were calculated as change from the previous condition (i.e., Instagram On – Baseline; Instagram Off – Instagram On). Error bars represent standard error. Significance indicated with asterisk: **$p < 0.01$ (one-tailed).

Discussion

This experiment demonstrated that regular posting on Instagram was a useful tool for reaching the public, including youth, with research information on risk and resilience. Instagram posting led to large increases in followers, impressions, and website clicks within Instagram, and to large increases in the number of reads of the corresponding research articles on ResearchGate. Thus, it demonstrated preliminary evidence of Instagram as an effective knowledge mobilization platform for sharing research about sensitive health-related topics with the public.

Regular Instagram posting of research related to risk and resilience led to increases in the number of individuals following the experiment's Instagram account – one indicator of reach of the information. During weeks of daily posting, relative to the baseline, more new Instagram followers were engaged. This effect was large in magnitude, attesting to its practical importance. Although this was a cumulative variable, no further significant increase in the number of Instagram followers were observed during subsequent weeks of no daily Instagram posting. This attests to the importance of being very active in Instagram posting in order to accumulate followers with whom to share health information.

Regular posting on the Instagram account also led to an increase in the number of Instagram impressions – the number of times the posts were viewed. Active posting led to a substantial increase in the number of Instagram impressions (relative to baseline); no posting led to a substantial decrease in the number of Instagram impressions

(relative to periods of active Instagram posting). This finding confirms that active posting results in greater viewing of a research-based message (i.e., greater engagement) by an account's followers.

In addition, posting regularly on Instagram resulted in an increase in the number of Instagram website clicks. This means that active Instagram posting led to increases in the account followers actively clicking on the associated link to take them to the research article page on ResearchGate, where they could see the article's title, authors, and abstract. The increases in website clicks with active Instagram posting (relative to baseline) and decreases in website clicks with no Instagram posting (relative to Instagram On periods) were both large in magnitude. This suggests that these were likely meaningful differences despite being trends in terms of statistical significance ($p = .06$ in each case). With greater engagement and higher numbers of followers, the research evidence being shared is more likely to be actively mobilized to more people.

The most important outcome of this experiment was showing that active posting on Instagram leads to an increase in reads of the associated article on ResearchGate. This means that not only did followers click more often on the embedded link to take them to the article's title, authors and abstract on ResearchGate, but also, they more often actively opened the article to engage further with the material (i.e., increased ResearchGate 'reads' of our shared articles). The general upward trend of reads of our shared articles on ResearchGate is to be expected as this is a cumulative variable. However, the use of an ABA design, and our employment of d-scores, allowed us to show that there was a significantly greater increase in ResearchGate reads of the shared articles when the account was actively posting about the articles' results, than when it was not. This large magnitude result is supportive of Instagram's usefulness in mobilizing research articles on adolescent mental health and resilience to the public. The results of this experiment, including the increases in Instagram followers, impressions, and website clicks and ResearchGate reads during periods of Instagram posting activity, indicate that the public, as social media users on a network such as Instagram, will engage with messages related to sensitive topics. This suggests that Instagram can be a useful tool for mobilizing research-based information about such sensitive topics to users who would benefit from the knowledge (e.g., young people themselves). This suggests that it is a feasible strategy for a research team to utilize in their knowledge dissemination and impact planning, as the extent of the cross-reach from scholarship repositories to a range of social media message formats can be directly tested. For example, using a ResearchGate project account that houses team member's articles in one locale, could be used to gage the number of project followers from the academic community, and the number of new reads and citations over the longer-term investigation.

It is important to note the characteristics of the followers we reached with this Instagram intervention. First, most followers engaged by the end of the experiment were women (71%), and the largest age group comprised those in the late adolescent/emerging adulthood developmental stage (i.e., 18-24 years; 34%). The finding that most followers were women is unsurprising, given that prior work has shown gender differences in the purposes of internet usage, with women being more likely to use for educational purposes than men (Weiser, 2000). Given that most of the account followers were women, findings cannot necessarily be generalized to all Instagram users. Research has found that males may be more difficult to engage in mental health-related communications (Ogrodnikzuk et al., 2016; Johnson et al., 2012). Future studies should review guidelines and strategies for engaging male youth in health-related topics online. With regards to the age effect, while we were effective in recruiting many followers in the age range to whom the results are most relevant (i.e., adolescents and emerging adults), it is important to note that many of the followers were outside this age range. It is possible that parents, for example, engaged with the Instagram account to gain information relevant to their adolescent offspring. A relatively small percent (7%) were younger teens; thus, future research is needed on how to more effectively reach these distinct stakeholder groups for such adolescent mental health and resilience content.

By increasing knowledge of research-based findings in youth health risk and resilience, it is hoped that this might lead to improved resilience behaviour, although this was not tested in the current study. Further, in targeting youth, it is important to consider the impact SoMe usage itself may have on young people's mental health. It has been suggested that increased use of SoMe may negatively impact an individual's wellbeing, leading to symptoms of depression or anxiety, for example, perhaps as a result of social comparison of oneself to the positive images generally projected by others over SoMe (Hardy & Castonguay, 2018). This suggests that the usage of SoMe sites may have the potential to be more detrimental to one's mental health than helpful. However, research does not appear to support this theory in younger people. For example, a study by Jelenchick and colleagues (2013) demonstrated no significant association between the use of SoMe sites and depression levels in older adolescent university students and, instead, supported the idea of using such sites for the purpose of combating mental health stigma and promoting wellbeing.

In addition, though using multiple SoMe platforms has been linked to increased anxiety in adults aged 30 years and above, the opposite relationship was observed in emerging adults, who experienced better mental wellbeing alongside use of more SoMe platforms (Hardy & Castonguay, 2018). Based on such evidence, harms associated with SoMe use appear less relevant to the younger population; although this certainly merits continued study.

Limitations and implications for future research

This study does possess several noteworthy limitations and therefore, the results should be interpreted with caution. This is the first Instagram knowledge mobilization experiment to our knowledge and therefore, the methodological design was not grounded in any other theoretical designs. Thus, this study is exploratory in nature. Due to Instagram's design, our account's posts were not displayed chronologically to followers (i.e., they would not appear in the order in which they were posted). Instead, posts were displayed to users in an order determined by an Instagram algorithm. This algorithm attempts to predict posts that the particular user would like most (based on their smartphone history, previous Instagram engagement, internet usage, phone GPS), and presents those posts first. As a result, our collected data may not be completely accurate in its demonstration of engagement, as our posts would not be displayed to all users in the same order or at the same time. Those who were following more Instagram accounts (i.e., more active SoMe users) or had previously engaged more with unrelated topics would have a lower chance of seeing the account posts in their newsfeed. In addition, if a post made by the @resilienceinyouth account was re-posted by a user (i.e. shared by another user from their own account), there is no accurate way of knowing that this further dissemination of research was occurring. All of the Instagram statistics used are based on the activity of our Instagram followers and we are not able to report on, or statistically analyze, the engagement of non-follower users. Another limitation is the small "sample size" (i.e., only nine research-based articles; only two weeks of data per phase) which resulted in low power for detecting some of our expected effects. For example, the changes in website clicks observed with our ABA design were only marginally significant ($p = .06$), and this was likely secondary to low power, particularly since the expected effects were large in magnitude. Future such studies should post a larger number of articles across a longer period of time. A further limitation pertains to the short duration of the study (i.e., six weeks) which prevented us from examining longer term outcomes of our Instagram posting intervention such as impact on citations of the articles posted in ResearchGate. In fact, another similarly designed study by our team that was longer in duration (i.e., seven months) showed that posting research-based information on Twitter led to significant increases in citations of the ResearchGate articles to which the tweets pertained (Wekerle et al., 2018).

Another potential limitation of the study was the fact that general interest, non-research based posts about resilience, in addition to the research-based posts, were also posted during each "Instagram On" phase during the experiment, albeit less frequently (i.e., ratio of two research study specific posts to every one general interest, non-research study specific post). As the latter were not linked to a specific research article, we could not examine their impacts on Instagram website clicks or ResearchGate article reads. Moreover, although their impact is included within the presented statistics on Instagram impressions, there is no way to separate the number of impressions for these two types of posts because Instagram only provides one single figure for impressions per Instagram account. Future research is thus needed to determine whether our observed effects of the research study specific Instagram posts require the additional presence of such non-research study specific posts to generate general interest in the Instagram account.

Although this study explored users' engagement with youth risk and resilience research- and evidence- based posts within Instagram, as well as the translation of Instagram engagement to interaction with the research content on ResearchGate, data collection was limited in terms of how the information was mobilized. For example, there is no way to identify how this information was used specifically by those who interacted with it. Future research focused on Instagram users may opt for a different design whereby participants sign on to participate in the study to allow for a follow-up data collection phase that queries actions taken based on information (e.g., influenced personal health decision-making, shared with youth advocates, used in agency reports, etc.)

Utilizing SoMe and smartphone technology, as widely used as it is by youth, may be a beneficial tool for risk and resilience knowledge mobilization, especially among the adolescent and emerging adult population. While our Instagram findings are promising, further research is required on Instagram as a knowledge mobilization tool, as its utility in this regard is not as well-documented in the research literature, as compared to other SoMe sites (e.g., Twitter, Facebook). Based on the observations from this study, however, Instagram appears to be a potentially effective and viable platform that merits further research.

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Conflict of interest

The authors have no conflict of interest to disclose.

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International Journal of Child and Adolescent Resilience
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Thematic section on child and youth complex trauma: Promoting social courage to shift practices, policies and research

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Twenty years ago, findings from the Adverse Childhood Experience study revealed that experiences of child maltreatment and family dysfunction were far more prevalent in the general population than previously known. It also drew attention to the impact of these experiences on later health, mental health and functional impairments in adulthood, which increased with each additional adverse childhood experience exposure (Felitti et al., 1998). Finkelhor and colleagues expanded the types of adverse events examined to include victimization experiences outside the home (Finkelhor, 2008; Finkelhor et al., 2011), and showed that, at levels past a certain threshold, these events increased post-traumatic stress symptoms and functional impairments, as well as risk of exposure to future victimization (Finkelhor et al., 2007). A relative consensus now exists among leading trauma experts that chronic, cumulative interpersonal maltreatment, neglect and/or violence occurring early in life can disrupt all aspects of normative development: cognitive, biological, neurological, emotional, relational and behavioral (Briere & Spinazzola, 2005; Cloitre et al., 2009; Courtois, 2008; van der Kolk et al., 2005). The term "complex trauma" refers to both the exposure to chronic, interpersonal experiences for children and youth, and the constellation of possible sequelae causing significant impairments across the lifespan (Cook et al., 2005). Despite recent enhancement of our social responses to child and youth trauma through research, practice and policy, misconceptions about trauma-informed practices continue to permeate mental health services and hinder true paradigm shifts from occurring (Sweeney & Taggart, 2018). Consequently, many children and youth presenting with complex trauma continue to suffer unnoticed, without receiving necessary resources and support. There is an urgent need to provide children and youth impacted by trauma in childhood with resources and support that are trauma-informed, resilience- and healing-centered and culturally relevant (Collin-Vézina, Brend, & Beeman, 2020). This thematic section intends to move this field forward by highlighting important practice and policy-driven scholarly work. It hopes to be a source of influence to learn, grow and contribute collectively to improve the wellbeing of children and youth impacted by trauma. As we readers of the International Journal of Child and Adolescent Resilience know, strengthening individual and community resilience, by unifying and enhancing social responses to trauma through research, practice and policy, is paramount to the wellbeing of children and youth.

Steward and colleagues' paper confirm, among a large sample of children and youth receiving mental health services, that childhood traumatic experiences are far too common and lead to severe negative outcomes. Their findings draw attention to the complex relationship between adverse childhood experiences and harm to self and others, which supports the adoption of screening and assessment strategies in mental health settings that take into

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account childhood traumatic experiences. Their study contributes to contemporary debates on the use of systematic trauma screening in health settings (see Collin-Vézina, Brend, & Fallon, 2020, for a review) and highlights the importance of rethinking these procedures alongside a strong paradigm shift towards trauma-informed patient care. Along the same lines, Lowenthal's review paper presents a broad summary on trauma-informed programs implemented in child and youth serving sectors, which brings essential information on the extent of implementation and the characteristics of existing programs, as well as promising findings and noted roadblocks. These reflections are essential to inform future research in the area of trauma-informed practices and organizational policies.

Alie-Poirier and colleagues, as well as Hébert and colleagues, tackle the important trauma-related social issue of sexual victimization. The former paper explores the impact of cumulative trauma beyond sexual abuse in a sample of children and youth under the care of child protection services. This study highlights four profiles that are linked with cumulative traumas and the number of years in the child welfare system, and sadly confirms that many of these children and youth present with severe complex trauma symptoms or dissociative-type profiles. The latter manuscript offers insights on how to adapt the well-known, internationally recognized Trauma-Focused Cognitive Behavioral Therapy intervention program (TF-CBT; Cohen et al., 2012) to sexually abused children and youth who present with complex trauma profiles. This paper goes beyond describing and empirically testing hypotheses on the link between trauma and mental health, by offering concrete, practice-driven tools to better respond to the needs of this highly vulnerable population and, thus, promote their resilience. In the same vein, Bruneau-Bherer and colleagues' and Brend and colleagues' papers offer insights on innovative approaches with complexly traumatized children. The first paper focuses on mindfulness strategies and presents a newly developed yoga-based program, called Namasté, that shows promising results in supporting regulation and development among children served by child protection services. Specifically designed for children in group home settings, the second paper presents a trauma-informed training program for child protection staff, called Penguin, for which initial evaluation findings suggest positive changes over time with regards to professionals attitudes towards trauma-informed care and less punitive measures adopted in group homes to deal with clients' challenging behaviors.

Maurer's paper contributes theoretically to the field of resilience by applying a biopsychosocial process definition of resilience to in-depth interviews with youth regarding their affect regulation when experiencing high affect arousal. These young people, who have all experienced family violence, describe both their internal turmoil and great need for support, which reinforces the importance of adopting a whole-person, system-wide approach that goes beyond pathologizing mental health challenges displayed by youth and, rather, focuses on improving access to resources in their environments. This broader, system-wide perspective is also emphasized in Brend and Sprang' paper on child welfare professionals' well-being. The authors bring attention to the importance of 'taking care of the carers' so these adults can be fully prepared and equipped to act as positive agents of change for children and youth presenting with complex trauma. Their paper, which focuses on child protection settings more particularly, recommends organizational strategies to promote workers' well-being and, thus, to enhance positive work climates. These findings are particularly important in light of Doucet's paper that draws attention to the vital importance of young people in care establishing meaningful relationships and building trust in self and others. Young people interviewed remind us of the importance of building supportive community organizations and training workers to be culturally responsive, as a means of responding to their needs while in care and when exiting care.

Taken together and informed by guidelines put forth by the Substance Abuse and Mental Health Services Administration (SAMHSA, 2014), the papers included in the thematic section invite all of us to take part in a societal transformation that aims to bring awareness to childhood trauma and to shift practices to recognize the prevalence and the impact of trauma in many peoples' lives. They also call upon us to show courage in adapting our interventions and policies to better respond to the needs of traumatized children and youth, and to make every effort necessary to build societies that no longer perpetuate maltreatment and violence.

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Section thématique sur le trauma complexe chez les enfants et les jeunes : Favoriser le courage collectif nécessaire pour modifier les pratiques, les politiques et la recherche

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Il y a vingt ans, les résultats de l'étude *Adverse Childhood Experiences* ont révélé que les expériences de maltraitance durant l'enfance et de dysfonctionnement familial étaient beaucoup plus fréquentes dans la population générale qu'on ne le pensait auparavant. Ils ont également attiré l'attention sur l'impact de ces expériences sur la santé physique, la santé mentale et les problèmes fonctionnels à l'âge adulte, et ont montré que ces impacts augmentaient à chaque nouvelle exposition à des expériences négatives dans l'enfance (Felitti et al., 1998). Finkelhor et ses collègues ont élargi la sélection des types d'événements adverses examinés pour y inclure les expériences de victimisation en dehors du domicile (Finkelhor, 2008; Finkelhor et al., 2011), et ont montré qu'au-delà d'un certain seuil, ces événements augmentaient les symptômes de stress post-traumatique, les altérations du fonctionnement, ainsi que le risque d'exposition à une future victimisation (Finkelhor et al., 2007). Un consensus relatif existe maintenant parmi les principaux experts en trauma psychologique sur le fait que les mauvais traitements interpersonnels chroniques et cumulatifs, notamment la négligence et/ou la violence survenant tôt dans la vie, peuvent perturber tous les aspects du développement normatif : cognitif, biologique, neurologique, émotionnel, relationnel et comportemental (Briere & Spinazzola, 2005; Cloitre et al., 2009; Courtois, 2008; van der Kolk et al., 2005). Le terme « trauma complexe » désigne à la fois l'exposition à des *expériences* interpersonnelles chroniques chez les enfants et les jeunes, ainsi que la constellation de *séquelles* possibles causant des difficultés importantes tout au long de la vie (Cook et al., 2005). Malgré l'amélioration récente de nos réponses sociales aux traumas des enfants et des adolescents grâce au déploiement de recherches, de pratiques et de politiques innovantes, des biais et croyances erronées sur les pratiques fondées sur les traumas (*trauma-informed care*) continuent d'imprégner les services en santé mentale et de limiter les véritables changements de paradigme (Sweeney & Taggart, 2018). En conséquence, de nombreux enfants et jeunes présentant des traumas complexes continuent de souffrir sans être remarqués, sans recevoir les ressources et le soutien nécessaires. Il est urgent de fournir aux enfants et aux jeunes victimes de traumatismes durant l'enfance des ressources et un soutien qui soient basés sur les données probantes liées aux traumas, axés sur la résilience et la guérison, ainsi que culturellement pertinents (Collin-Vézina, Brend, & Beeman, 2020). Cette section thématique vise à faire avancer ce domaine en mettant en lumière d'importants travaux scientifiques axés sur la pratique et les politiques sociales. Elle espère être une source d'influence pour apprendre, grandir et contribuer collectivement à améliorer le bien-être des

enfants et des jeunes touchés par les traumas. Nous, lecteurs de la revue internationale de la résilience des enfants et des adolescents (RIREA), savons que le renforcement de la résilience individuelle et communautaire est primordial pour le bien-être des enfants et des jeunes, et ce, en unifiant et en améliorant les réponses sociales aux traumas par la recherche, la pratique et les politiques sociales.

L'article de Steward et ses collègues confirme, parmi un large échantillon d'enfants et de jeunes recevant des services de santé mentale, que les expériences traumatiques vécues durant l'enfance sont beaucoup trop courantes et entraînent des impacts négatifs graves. Leurs conclusions attirent l'attention sur la relation complexe entre les expériences traumatiques et la violence dirigée vers soi-même et les autres, ce qui soutient l'adoption de stratégies de dépistage et d'évaluation dans les établissements de santé mentale qui tiennent compte des expériences traumatiques survenues durant l'enfance. Leur étude contribue aux débats contemporains sur l'utilisation du dépistage systématique des traumatismes dans les établissements de santé (voir Collin-Vézina, Brend, & Fallon, 2020 pour une recension) et souligne l'importance de repenser ces procédures parallèlement à un changement de paradigme important pour promouvoir des soins aux patients sensibles aux traumas. Dans le même ordre d'idées, la recension de Lowenthal présente un résumé général des programmes de prise en charge des traumas mis en œuvre dans les secteurs de soins à l'enfance et de la jeunesse, et apporte des informations essentielles sur l'étendue de la mise en œuvre de ces programmes, les caractéristiques des programmes existants, ainsi que les résultats prometteurs et les obstacles constatés. Ces réflexions sont essentielles pour éclairer les recherches futures dans le domaine des pratiques et des politiques organisationnelles fondées sur les traumas.

Alie-Poirier et ses collègues, ainsi qu'Hébert et ses collègues, abordent l'importante question sociale liée à la victimisation sexuelle. Le premier article explore l'impact des traumatismes cumulatifs au-delà de l'agression sexuelle dans un échantillon d'enfants et de jeunes pris en charge par les services de protection de l'enfance. Cette étude met en évidence quatre profils liés aux traumatismes cumulatifs et au nombre d'années passées dans le système de protection de l'enfance, et confirme malheureusement que beaucoup de ces enfants et jeunes présentent des symptômes de traumatismes graves et complexes ou des profils de type dissociatif. Le deuxième manuscrit offre des indications sur la manière d'adapter, pour les enfants et les jeunes sexuellement abusés qui présentent des profils traumatiques complexes, le programme d'intervention internationalement reconnu de thérapie cognitivo-comportementale axée sur les traumas (TF-CBT; Cohen et al., 2012). Cet article va au-delà de la description et de la vérification empirique d'hypothèses sur le lien entre les traumatismes et la santé mentale, en proposant des outils concrets et pratiques pour mieux répondre aux besoins de cette population très vulnérable et, ainsi, promouvoir leur résilience. Dans le même ordre d'idées, les articles de Bruneau-Bherer et ses collègues et de Brend et ses collègues offrent un aperçu des approches innovantes avec les enfants souffrant de traumatismes complexes. Le premier article se concentre sur les stratégies de pleine conscience et présente un programme de yoga récemment développé, appelé Namasté, qui montre des résultats prometteurs en matière de soutien à la régulation et au développement des enfants pris en charge par les services de protection de l'enfance. Le deuxième article présente un programme de formation sur les traumatismes pour les intervenants en protection de l'enfance, appelé Pingouin, dont les premiers résultats d'évaluation suggèrent des changements positifs au fil du temps en ce qui concerne l'attitude des professionnels à l'égard des services sensibles aux traumas et les mesures moins punitives adoptées dans les foyers de groupe pour faire face aux comportements difficiles des clients.

L'article de Maurer contribue théoriquement au domaine de la résilience en appliquant la définition du processus biopsychosocial de la résilience aux entretiens approfondis conduits auprès de jeunes concernant leur régulation affective lorsqu'ils vivent des événements chargés émotionnellement. Ces jeunes, qui ont tous été victimes de violence familiale, décrivent à la fois leurs troubles internes et leurs grands besoins de soutien, ce qui renforce l'importance d'adopter une approche globale, systémique, qui va au-delà de la pathologisation des problèmes de santé mentale affichés par les jeunes et qui se concentre plutôt sur l'amélioration de l'accès aux ressources dans leur environnement. Cette perspective plus large, à l'échelle du système, est également soulignée dans le document de Brend et Sprang sur le bien-être des professionnels de la protection de l'enfance. Les auteures attirent l'attention sur l'importance de « prendre soin des soignants » afin que ces adultes puissent être pleinement préparés et équipés pour agir comme des agents de changement positifs auprès des enfants et des jeunes présentant des traumas complexes. Leur article, qui se concentre plus particulièrement sur les milieux de protection de l'enfance, recommande des stratégies organisationnelles pour promouvoir le bien-être des travailleurs et, par conséquent, pour favoriser des climats de travail positifs. Ces conclusions sont particulièrement importantes à la lumière de l'article de Doucet qui attire l'attention sur l'importance vitale pour les jeunes pris en charge par les services de protection de la jeunesse d'établir des relations significatives et de bâtir leur confiance en soi et en autrui. Les jeunes interrogés nous rappellent

l'importance de mettre en place des organisations communautaires de soutien et de former les travailleurs pour qu'ils soient sensibles aux enjeux culturels, afin de répondre à leurs besoins pendant qu'ils sont pris en charge et lorsqu'ils quittent les services.

Inspirés des lignes directrices établies par la *Substance Abuse and Mental Health Services Administration* (SAMHSA, 2014), les articles inclus dans cette section thématique nous invitent tous à prendre part à une transformation sociétale qui vise à accroitre la sensibilisation aux traumatismes vécus durant l'enfance et à modifier les pratiques afin de reconnaître la prévalence et l'impact des traumas dans la vie de nombreuses personnes. Elles nous invitent également à faire preuve de courage en adaptant nos interventions et nos politiques pour mieux répondre aux besoins des enfants et des jeunes traumatisés, et à faire tous les efforts nécessaires pour construire des sociétés qui ne perpétuent plus les mauvais traitements et la violence.

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Childhood maltreatment and risk of harm to self and others: The role of sex and polyvictimization

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Abstract

Objectives: Research has shown that children who experience abuse and neglect are at much higher risk of experiencing negative outcomes such as physical and mental health problems, social skill deficits, and poor quality of life. The goal of this paper was to examine the relationship between polyvictimization and risk of harm to self and others, taking into account both age and sex differences.

Methods: A total of 8980 participants (4156 with maltreatment history) were recruited from over 50 mental health facilities in Ontario, Canada. Group comparisons were completed to examine types of trauma experienced, and risk of harm to self and others.

Results: Among our sample, we found that 29% of children and youth had experienced multiple types of interpersonal trauma. We also found that while female children and youth who had experienced trauma were at greater risk of harm to themselves, males were at greater risk of harming others. Further, our results highlight that children and youth who had experienced multiple types of maltreatment, regardless of age or sex, were at the greatest risk of harm to self and others.

Implications: Findings from this research highlight that interpersonal trauma is multifaceted and add to existing evidence that there is a cumulative relationship between experiencing multiple types of maltreatment and risk in relation to harming oneself or others. Our findings underscore the importance of a background assessment that takes into account all forms of maltreatment in order to properly understand risk of harm and inform intervention.

Keywords: Childhood maltreatment; children's mental health; polyvictimization; risk of harm; interRAI.

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Introduction

Child maltreatment has been defined as child abuse and includes physical, sexual, and psychological abuse, neglect, and exposure to domestic violence (World Health Organization, 2016). While there is extensive research into the negative effects of various forms of child maltreatment, very few studies report the prevalence rates of specific types of abuse, such as neglect, despite it being the most reported form of child maltreatment by child protective service agencies (Stoltenborgh et al., 2013). Children who have experienced maltreatment are at much higher risk of experiencing mental health problems, substance use (Baiden et al., 2014), social skill deficits, and other life stressors compared to non-maltreated children (El-Sheikh et al., 2008; Raviv et al., 2010; Robinson et al., 2009; Smith et al., 2014; Taussig & Culhane 2010). Further, as part of a systematic review of the literature examining the risk of future maltreatment, Hindley et al. (2006) found that, compared to those children and youth (hereafter referred to as children) who had not previously experienced maltreatment, children who had experienced abuse were six times more likely to experience recurrent maltreatment.

Childhood maltreatment and polyvictimization: Short- and long-term negative consequences

There is a well-established relationship between child maltreatment and psychopathology (e.g., Alvarez-Lister et al., 2014; Ford et al., 2011; Guerra et al., 2019; Heleniak et al., 2015; Mills et al., 2013; Stewart, Baiden, Theall-Honey, 2014), as well as high risk behaviours including nonsuicidal self-injury (NSSI; Baiden et al., 2017b; Klassen et al., 2018; Stewart, Baiden & Theall-Honey, 2014; Stewart, Baiden, Theall-Honey & den Dunnen, 2014), and suicidal behaviour (Ford et al., 2013). Specifically, abused children often engage in NSSI as a means to regulate their affect (Nock & Prinstein, 2005), attempt to control anger or pain associated with past traumatic experiences (Suyemoto, 1998), or use it as a distraction to prevent intrusive thoughts (Brown et al., 2002). Further, NSSI predicts future suicidal thoughts and behaviour (Hamza et al., 2012; Wilkinson et al., 2011).

A direct relationship has also been found between child abuse and harm to others (Al Odhayani et al., 2013; Fagan, 2005; Lansford et al., 2007) including the commission of aggression and violent crimes (e.g., Allen, 2011; Sansone et al., 2012). For example, physical and sexual abuse in childhood has been found to be related to intimate partner violence (Berzenski & Yates, 2010; Wolff & Shi, 2012) as well as abuse to offspring (Taillieu & Brownridge, 2015) suggesting that risk of injury toward others in childhood may be an identifiable precursor of family violence and child abuse (Temcheff et al., 2008). Moreover, childhood emotional and behavioural difficulties are also associated with other detrimental consequences including increased risk for academic underachievement, school dropout, and future underemployment (Fergusson & Woodward, 2002; McLeod & Kaiser, 2004).

Most children who experience one type of maltreatment, experience at least one additional type (Barboza, 2018; Ney et al., 1994; Pears et al., 2008). In line with cumulative risk theory (Appleyard et al., 2005), children who are exposed to multiple types of maltreatment, or polyvictimization, tend to experience more trauma symptoms than children who experience repeated episodes of the same kind of maltreatment (Finkelhor et al., 2007). Further, polyvictimization is associated with more severe abuse, and the interaction between number of maltreatment types and maltreatment severity predict greater levels of trauma symptomatology (Clemmons et al., 2007). Similarly, individuals who experience multiple childhood adversities, especially those who experience high levels of maltreatment, have increased odds of developing psychopathology (McLafferty et al., 2018).

Researchers have investigated the relationship between polyvictimization and mental health among children presenting in different service sectors. For example, parent reports from a community sample of children revealed that polyvictimization was the best predictor, in comparison to individual victimization categories, of depression, anxiety, and anger/aggression (Cyr et al., 2014). Among a sample of outpatient children, Ford and his colleagues (2011) found that clinically severe externalizing behaviour (e.g., conflict with others, violating social norms), as rated by parents, was associated with polyvictimization. Alvarez-Lister and colleagues (2014) found higher rates of internalizing (i.e., anxiety, depression, withdrawal) and externalizing (i.e., aggressive and delinquent behaviour) difficulties among outpatient adolescents who had experienced polyvictimization. Recently, Suarez-Soto and colleagues (2019) found that among a sample of adolescents recruited from inpatient and youth-justice settings, suicidality was twice as likely among those who had experienced polyvictimization.

Longitudinal research has also demonstrated that higher rates of psychopathology later in life are predicted by a greater number of maltreatment allegations during childhood (Lauterbach & Armour, 2016) and that earlier onset of maltreatment is predictive of greater symptoms of anxiety and depression in adulthood (Kaplow & Widom, 2007).

Seminal research utilizing retrospective data found that adults who had experienced trauma during their childhood were at increased risk for a wide variety of negative consequences including substance abuse, depression, suicide attempts, poor relationships, heart, lung, and liver diseases, as well as cancer (Felitti et al., 1998). Further, the likelihood of developing these mental health, social, and physical health difficulties increased for adults who had experienced greater numbers of childhood trauma incidents. Extant literature suggests that polyvictimization is highly associated with anger, suicidal behaviour (Charak et al., 2016), poor quality of life, and multiple health conditions (e.g., Dong, 2004; Dube, 2003; Edwards et al., 2003; Jelley et al., 2020; Mersky et al., 2013) among diverse populations. Moreover, such childhood victimization has also been associated with the increased likelihood of revictimization into adulthood (Pereda & Gallardo-Pujol, 2014).

Sex differences in childhood maltreatment, polyvictimization, and psychopathology

Around the world, rates of both emotional and sexual abuse tend to be higher for girls than boys, while rates of physical abuse are similar for both (Moody et al., 2018). Among various populations, females consistently present with higher rates of internalizing problems (e.g., anxiety, depression), while males tend to experience higher rates of externalizing difficulties (e.g., defiance, hyperactivity; Kramer et al., 2008) including aggression towards others (e.g., Baillargeon et al., 2007; Card et al., 2008). Among outpatient children (Ford et al., 2011), community adolescents (Ford et al., 2010), and youth in conflict with the law (Ford et al., 2013), it has been found that females, compared to males, are significantly more likely to have experienced polyvictimization. Further, while suicidality is higher among both community males and females who have experienced polyvictimization as compared to non-polyvictimized youth, females are at greatest risk for suicidality (e.g., Soler et al., 2013). Taken together, these research findings underscore the importance of taking sex differences into consideration when examining the relationship between childhood maltreatment and risk of harm to self and others.

Present study

Researchers have only recently begun to examine the relationship between *cumulative* maltreatment, behaviour problems (Annerback et al., 2012) and suicidality (Soler et al., 2013; Suarez-Soto et al., 2019). While researchers have explored the risks and outcomes associated with exposure to multiple forms of trauma, much of the research examining polyvictimization relies on retrospective data (e.g., Felitti et al., 1998; Charak et al., 2016). Furthermore, while there has been some research on polyvictimization among children, to our knowledge, none have examined sex differences in relation to polyvictimization and risk of harm to both self and others. Given the negative sequelae associated with childhood maltreatment, coupled with research findings suggesting that those children experiencing maltreatment are often victims of multiple types of maltreatment, understanding the relationship between polyvictimization and risk of harm is of the utmost importance.

The present study utilizes a large sample of high-risk inpatient and outpatient children seeking mental health services. It was hypothesized that those children who had experienced polyvictimization would be at greatest risk of harm to self and others. Additionally, it was expected that females would be at greater risk for harm to self while males would pose a greater risk of injury to others. This research also evaluated whether the association between polyvictimization and risk of harm is moderated by sex. The ultimate aim was to gain a better understanding of the association among polyvictimization and risk of harm (to self and others) to inform future intervention and prevention efforts in clinically-referred children.

Method

Participants

The present study utilized archival data from 8980 children between the ages of 4 and 18 years ($M = 12.02$, $SD = 3.58$) from over 50 mental health care facilities in Ontario, Canada as part of standard of care. More than half of the children were males 58.3% ($n = 5235$).

Procedure

Data was collected from November 2012 to January 2018 by trained assessors (e.g., nurses, social worker, psychologists, child and youth workers) at the time of intake into clinical services. Referrals were made by their parents, family physicians, teachers, or other allied professionals. Administration involved a semi-structured interview involving the child, guardians, family members as well as collateral contacts (e.g., teachers, therapists). Additionally, information

from medical records, report cards, academic assessments, and relevant clinical documents were also reviewed. Data were entered by assessors into a de-identified web-based software system that securely stores the data at interRAI Canada and provides a unique, randomly generated study-specific participant number. All personal identifiers were removed prior to data being available for analysis. Western University ethics approval was granted for the secondary analysis of data collected in various agencies throughout the Province of Ontario (#106415).

Measures

interRAI Child and Youth Mental Health Assessment (ChYMH). The ChYMH (Stewart, Hirdes et al., 2015) is a clinician-rated needs-based assessment comprised of over 400 clinical items covering a wide variety of domains in the area of child and youth mental health (e.g., social, psychiatric, environmental, medical). This instrument takes approximately 45-90 minutes to administer depending on case complexity. Information from this assessment system can be utilized by multiple stakeholders for several purposes including individualized client assessments, outcome measurement, quality indicators and resource allocation. Several scales and algorithms that measure symptom frequency and severity are embedded within the ChYMH to indicate level of risk and support goal-setting for intervention. Additionally, care planning protocols, called Collaborative Action Plans (Stewart, Theall et al., 2015), highlight areas of imminent risk and provide goal-directed intervention planning based on the strengths, needs, and preferences of the child and/or family (Stewart et al., 2017; Stewart, Currie et al., 2015; Stewart & Hamza, 2017; Stewart, Hirdes et al., 2015; Stewart, Poss et al., 2019). Several instruments within the interRAI Child and Youth suite have been developed to provide an integrated health information assessment system with multiple applications (Stewart et al., 2017; Stewart, Hirdes et al., 2015; Stewart, Theall et al., 2015). These applications have also been designed for children, youth, and adults with mental health and developmental disabilities (Billawala et al., 2018; Fries et al., 2019; Lapshina & Stewart, 2019; Stewart et al., 2016; Stewart, LaRose et al., 2015; Stewart, Morris et al., 2019). ChYMH scales and algorithms have demonstrated strong reliability and validity in children across multiple contexts (Hirdes et al., 2020; Lau et al., 2018, 2019; under review; Stewart & Babcock, 2020; Stewart et al., 2020; Stewart & Hamza, 2017; Stewart & Hirdes, 2015; Stewart, Hirdes et al., 2015; Stewart, Morris et al., 2019; Stewart, Poss et al., 2019; Stewart, Thornley et al., 2019).

Items, scales, and algorithms. A variety of clinical elements, scales, and algorithms within the interRAI ChYMH assessed polyvictimization as well as harm to self and others.

Traumatic Life Events and Polyvictimization. Traumatic life events were assessed utilizing six items that address interpersonal traumatic life events experienced by a child. Sexual abuse was determined as any form of exposure of genitals, sexual assault, sexual touching or coercion. Physical abuse referred to any incident resulting in non-accidental injury, physical confinement, or excessive physical discipline experienced by the child. Emotional abuse included pervasive hostility toward the child whereby the self-esteem, identity, emotional wants and needs of the child/youth were invalidated. Witnessing domestic violence pertained to the child having awareness, or knowledge of, or witnessing verbal threats or physical actions toward another family member. Physical neglect referred to the failure to meet the physical needs of the child. Finally, emotional neglect was defined as the failure to provide nurturance, warmth, love, or affection to the child. Item response options were 0 (never), 1 (more than 1 year ago,) 2 (31 days-1 year ago), 3 (8-30 days ago), 4- (4-7 days ago), and 5 (present within the last 3 days). Given the low prevalence of recent traumatic life events, the responses were dichotomized into 0 (never) and 1 (occurred ever). The responses were further summed resulting in an ordinal polyvictimization variable, with values of 0 (no trauma), 1 (one type of trauma), 2 (two types of trauma), and 3 (three or more types of trauma). It should be noted that while polyvictimization could be determined, the specific severity (e.g., penetration) and chronicity (e.g., multiple times daily) of the abuse could not.

Risk of Suicide and Self-harm in Kids (RiSsK). RiSsK is an algorithm which reflects risk of suicide and self-harm among clinically referred children (Stewart et al., 2020). It is based on six individual items (i.e., attempts to kill self, self-harm attempts without intent to kill, considered self-injury, others concerned about self-injury, family overwhelmed and any self-injurious behaviours) as well as the Depression Severity Index (a 9-item scale which measures the frequency and severity of depressive symptoms).

***Risk of Injury to Others (RIO*).** RIO is an algorithm utilized to identify the child's risk of injury to others (Stewart et al., under review). This algorithm is based on a decision tree composed of nine items (i.e. violent ideation, threatened violence, violence to others, verbal abuse, socially inappropriate or disruptive behaviour, destructive behaviour, family overwhelmed, impulsivity and physical abuse).

Analytic strategy

The results were analyzed using IBM SPSS Statistics package, version 25. Preliminary analyses examined sex differences in traumatic life events, polyvictimization, and risk of self-harm and injury to others. Pearson chi-square tests examined sex differences in the prevalence of traumatic life events and polyvictimization. To examine sex differences in risk of self-harm and injury to others, generalized linear models (GLM) with Tweedie distribution with log link and robust standard error estimation were chosen to fit the data and address the violation of normality assumption.

Next, we probed for an interaction between polyvictimization and sex. The GLMs with Tweedie distribution and robust estimation models included two main effects (polyvictimization: none, one, two, or three or more types of trauma; and sex: male, female), a polyvictimization × sex interaction, and age as a covariate. Age was used as a covariate in these models to control for the increased likelihood of children having experienced trauma as they get older. In the models, male and no polyvictimization served as reference categories for sex and polyvictimization respectively. All statistical tests were two-tailed. The significance level was set at alpha .01, which corresponded to 99% confidence intervals in GLM analyses. Bonferroni corrections were utilized to account for multiple comparisons, by dividing the unadjusted *p*-value by the number of comparisons and then comparing with alpha (.01).

Results

Preliminary analyses

In the sample, males (M = 11.33, SE = 3.49) were younger than females (M = 12.99, SD = 3.47), $t(8979)$ = - 22.27, p < .001, 99% CI: -1.85, -1.45. For sample characteristics see Table 1.

Table 1. Sample characteristics by sex

	Males		Females	
	n	%	n	%
History of foster family placement				
None	4424	84.5	3190	85.2
One foster family	438	8.4	310	8.3
Multiple foster families	357	6.8	241	6.4
Legal guardianship[2]				
Both parents	2917	55.7	2133	57.0
Mother only	1563	29.9	1045	27.9
Father only	209	4.0	162	4.3
Other relatives or non-relatives	293	5.6	183	4.9
Child protection agency	236	4.5	181	4.8
Youth responsible for self	14	.3	38	1.0
Marital status of parents[3]				
Never married	1130	21.6	749	20.0
Married	2067	39.5	1499	40.0
Partner/significant other	186	3.6	80	2.1
Widowed	104	2.0	73	1.9
Separated	686	13.1	493	13.2
Divorced	734	14.0	657	17.5
Unknown	319	6.1	191	5.1

Note. [1]n = 8960. [2]n = 8974. [3]n = 8968

Prevalence of traumatic events and polyvictimization and sex differences

Prevalence of each type of traumatic life event, as well as prevalence of polyvictimization among our sample, and each individual type of traumatic life event is presented in Table 2. Witnessing domestic violence was the most prevalent trauma experienced among our sample. Polyvictimization was most prevalent among those who had experienced physical and emotional neglect.

Table 2. Prevalence of traumatic life events and polyvictimization

			Prevalence of Polyvictimization	
	n	%	n	%
Sexual abuse	919	10.2	731	79.5
Physical abuse	1660	18.5	1507	90.8
Emotional abuse	2483	27.7	2120	85.4
Witness of domestic violence	2593	28.9	1836	70.8
Emotional neglect[1]	1060	11.8	986	93.0
Physical neglect[2]	764	8.5	752	98.4
Polyvictimization				
No trauma	4824	53.7		
One type of trauma	1547	17.2		
Two types of trauma	1082	12.0		
Three or more types of trauma	1527	17.0		

Note. [1]n = 8605. [2]n = 8747.

Table 3 presents the prevalence of traumatic life events and polyvictimization as a function of sex. More females than males experienced sexual, physical, and emotional abuse. The greatest difference was found in the prevalence of sexual abuse wherein 17.6% of females experienced sexual abuse compared to 4.9% of males. No sex differences were revealed in witnessing domestic violence, nor emotional or physical neglect.

The prevalence of polyvictimization significantly varied by sex. Specifically, more females than males had experienced trauma (50.4% vs. 43.4%). Further, more females had two or three or more types of trauma (14.2% and 19.4% of females vs. 10.5% and 15.3% of males). The prevalence of experiencing one type of trauma did not differ between sexes (males: 17.6%, females: 16.7%).

Table 3. Prevalence of traumatic life events and polyvictimization by sex (n = 8980)

	Males		Females				
	%	(n)	%	(n)	χ^2	*p*	*Phi/Cramer's v*
Sexual abuse	4.9	(259)	17.6	(660)	381.86	< .001	.206
Physical abuse	17.2	(902)	20.2	(758)	13.13	< .001	.038
Emotional abuse	24.5	(1283)	32.0	(1200)	61.96	< .001	.083
Witness of domestic violence	28.5	(1494)	29.3	(1099)	0.692	.405	.009
Emotional neglect[1]	12.4	(623)	12.2	(437)	0.031	.860	.002
Physical neglect[2]	8.7	(446)	8.7	(318)	0.001	.980	.000
Polyvictimization					68.18	< .001	.087
No trauma	**56.6**	**(2966)**	**49.6**	**(1859)**			
One type of trauma	17.6	(921)	16.7	(626)			
Two types of trauma	**10.5**	**(550)**	**14.2**	**(532)**			
Three or more types of trauma	**15.3**	**(799)**	**19.4**	**(728)**			

Note. [1]n = 8605. [2]n = 8747. For polyvictimization, percentages in bold indicate statistically significant sex difference at α = .01.

Sex differences in risk of self-harm and injury to others

To examine sex differences in risk of self-harm as well as risk of injury to others, the outcome variables were regressed onto sex (male, female) using GLM with Tweedie distribution. For RiSsK, the overall model was significant, full model Likelihood Ratio χ^2 (1) = 213.22, p < .001. The main effect of sex was significant, wherein females (M = 1.89, SE = .03) scored higher than males (M = 1.18, SE = .02) on risk of suicide and self-harm, B = .468, SE = .023, 99% CI: .409, .527, Wald χ^2 (1) = 419.92, p < .001.

For RIO, the overall model with sex as a predictor was significant; full model Likelihood Ratio χ^2 (1) = 290.11, p < .001. The main effect of sex was significant, wherein females (M = 1.28, SE = .03) scored lower than males (M = 2.21, SE = .03) on risk of injury to others, B = -.544, SE = .025, 99% CI: -.608, -.481, Wald χ^2 (1) = 485.91, p < .001.

Risk of harm to self and others as a function of sex and polyvictimization

To examine the possible moderating effect of sex, analyses probed for an interaction between polyvictimization and sex. The models included two main effects (polyvictimization: none, one type, two types, three or more types; and sex: male, female), a polyvictimization × sex interaction, and age as a covariate. The polyvictimization × sex interaction was not significant in the model with the risk of suicide and self-harm as the outcome variable, Wald χ^2 (3) = 3.71, p = .295, as well as in the model with risk of injury to others as the outcome variable, Wald χ^2 (3) = 7.37, p = .061.

Risk of Suicide and Self-harm in Kids (RiSsK). The overall model with main effects of sex, trauma, and age was significant with the full model Likelihood Ratio of χ^2 (5) = 1876.32, p < .001. There was a significant main effect of sex, wherein females (M = 1.73, SE = .03) scored higher than males (M = 1.33, SE = .02) with respect to risk of suicide and self-harm, B = .261, SE = .023, 99% CI: .201, .322, Wald χ^2 (1) = 124.19 p < .001. In addition, age significantly positively predicted risk of suicide and self-harm, B = .090, SE = .004, 99% CI: .081, .099, Wald χ^2 (1) = 601.69, p < .001.

After adjusting for age and sex, the differences in risk of suicide and self-harm varied significantly as a function of polyvictimization. Pairwise comparisons with Bonferroni correction revealed that children with no trauma background scored lower on risk of self-harm than children in all other groups (all p's < .001). Further, children who had experienced one type of trauma scored lower on risk of self-harm than children who had experienced two or three or more types of trauma (p's < .01). Those children who had experienced two types of trauma did not differ from those who had experienced three or more types of trauma (p = 1.00).

Risk of Injury to Others (RIO). The overall model with main effects of sex, polyvictimization, and age was significant; full model Likelihood Ratio χ^2 (5) = 1945.97, p < .001. The main effect of sex was significant, wherein females (M = 1.43, SE = .03) scored lower than males (M = 2.31, SE = .03) on risk of injury to others, B = -.480, SE = .025, 99% CI: -.544, -.416, Wald χ^2 (1) = 372.68, p < .001. Age negatively predicted risk of injury to others, B = -.080, SE = .003, 99% CI: -.088, -.072, Wald χ^2 (1) = 668.39, p < .001.

Controlling for age and sex, polyvictimization significantly predicted the risk of injury to others. Pairwise comparisons with Bonferroni correction revealed that children with no trauma scored lower on risk of injury to others than children in all other groups (all p's < .001). In addition, children who had experienced one type of trauma scored lower than children who had experienced two or more types of trauma (p's < .001) in terms of their risk of injury to others. Those who had experienced two types of trauma did not differ from those who had experienced three or more types of trauma (p = .082). Table 4 provides information on descriptive statistics for risk of self-harm and injury to others as a function of polyvictimization.

Table 4. Generalized linear models for Risk of Suicide and Self-harm in Kids (RiSsK) and Risk of Injury to Others (RIO) as a function of polyvictimization, adjusting for sex and age

Dependant variable	Polyvictimization					
	No trauma	One trauma	Two traumas	Three or more traumas		
	M (SE)	*M (SE)*	*M (SE)*	*M (SE)*	Wald χ^2	p
RiSsk	1.17 (.02)$_a$	1.51 (.04)$_b$	1.70 (.05)$_c$	1.76 (.04)$_c$	249.30	< .001
RIO	1.29 (.02)$_a$	1.75 (.04)$_b$	2.12 (.06)$_c$	2.30 (.05)$_c$	537.85	< .001

Note. M = Mean, SE = Standard Error. RiSsK, range: 0-6. RIO, range: 0-6. Different subscripts indicate significant pairwise differences using Bonferroni adjustment (p < .01).

Discussion

Polyvictimization and risk of harm to self and others

This study investigated polyvictimization and risk of harm to self or others as well as potential moderating effects of sex with a large sample of clinically-referred children. After controlling for sex and age, polyvictimization was associated with risk of suicide and self-harm as well as risk of injury to others. More specifically, results from this study indicated that children who had experienced two or more types of maltreatment scored higher with respect to expressions of harm-related indices than those with no maltreatment history as well as those children who had experienced one form of maltreatment. However, no differences were found between those children who had experienced two types of maltreatment and those who had experienced three or more with respect to risk of harm to self or risk of injury to others. These results are consistent with previous literature indicating that maltreated children are at increased risk for non-suicidal self-injury (NSSI; Armiento et al., 2016; Baiden et al., 2017a, 2017b) and research demonstrating that children who experience a greater number of maltreatment types are at heightened risk for suicidality (e.g., Ford et al., 2013; Suarez-Soto et al., 2019).

With respect to risk of injury to others, the findings presented herein are supported by the literature highlighting that children who experience multiple forms of abuse are more likely to exhibit aggressive/antisocial behaviour (e.g., Alvarez-Lister et al., 2014; Cyr et al., 2014; Ford et al., 2011). Moreover, aggression during childhood predicts juvenile delinquency and violent behaviour into adulthood (Farrington, 1994; Herrenkohl et al., 2000; Miller, 2001). Though some studies have used a greater number of maltreatment types to determine high level polyvictims (e.g., eight or more in Suarez-Soto et al., 2019; 13 or more in Alvarez-Lister et al., 2014), our findings indicate that there is a significant difference in risk of harm to self or others once children have experienced two forms of maltreatment. Despite this heightened risk, it is important to note that not all children who experience polyvictimization exhibit these harm-related behaviours. As such, further investigation to identify protective factors that reduce the likelihood of engaging in such behaviours is needed.

With respect to sex differences, as expected, findings from this study indicated that females were at greater risk of suicide and self-harm while males were at greater risk of injury to others. Higher rates of internalizing psychopathology in females and higher rates of externalizing psychopathology in males have been found in the literature (e.g., Eaton et al., 2012; Kramer et al., 2008). In children who have been victimized, these behaviours may be confounded by the type of abuse experienced. Specifically, sexual abuse, a traumatic event that tends to be experienced more by girls than boys, has consistently been identified as a risk factor for NSSI (Ford & Gomez, 2015). Consistent with our hypothesis and in line with previous research, it was found that girls engaged in more self-harm, ideation and suicidal behaviours than boys (Baiden et al., 2017a).

We found no interaction effect of polyvictimization and sex for risk of harm to self or risk of injury to others. Contrary to findings among samples of community adolescents (Itani et al., 2017; Soler et al., 2013), there was no significant interaction between polyvictimization and sex with respect to risk of harm to self. Similarly, while Ford and colleagues (2010) found that being male and having experienced polyvictimization both predicted delinquency (e.g., theft, use of force to obtain money, possessions, or sexual relations, perpetrating physical attacks), there was no significant interaction between polyvictimization and sex with respect to risk of harm to others. These discrepancies could be the result of the different populations (e.g., clinically referred compared to community youth), differences in age ranges of samples, or the specific types of maltreatment experienced, and warrant further investigation. Findings presented herein indicate that despite there being sex differences with respect to risk of harm to self as well as risk of injury to others, those children who experience multiple forms of maltreatment are at increased risk of harm to self and others regardless of their sex.

Our results revealed that older children were at greater risk of suicide and self-harm, whereas younger children were at greater risk of injury to others. These findings are also supported by previous longitudinal data demonstrating that externalizing behaviour decreased over time for both sexes (Leve et al., 2005). Consistent with other research, older children are more likely to engage in self-harm and are at higher risk for suicide than their younger counterparts (Whitlock et al., 2006). This is consistent with the positive relationship between age and risk of suicide and self-harm observed for both males and females in this study.

Taken together, these results highlight the complex and multi-faceted relationship between childhood maltreatment and the risk children pose to themselves and others. Findings presented herein underscore that while

there are sex and age differences with respect to risk of harm to self and others, those children who experience polyvictimization are at greater risk of harm to self and harm to others regardless of their sex or age. These findings add to the body of literature demonstrating the compounding negative effects of experiencing multiple forms of maltreatment.

Prevalence of polyvictimization

Consistent with previous research, our findings indicated that experiencing one type of abuse was associated with increased risk of experiencing multiple types of maltreatment, or polyvictimization. Our findings indicated that the prevalence rate of polyvictimization was 29%. Previous research among clinical outpatient samples of youth has reported lower prevalence rates of polyvictimization (8-12%; Alvarez-Lister et al., 2014; Ford et al., 2013). Conversely, Suarez-Soto and colleagues (2019) reported a much higher incidence rate, 61.7%, of polyvictimization among their sample of inpatient and youth-justice involved adolescents. It is likely that these differences are due to a number of factors including dissimilar populations (i.e., inpatient, outpatient, youth-justice), differences in age ranges of participants, different sample sizes, and variations in conceptualizing polyvictimization (i.e., number of maltreatment types).

Sex differences and childhood maltreatment

With respect to sex differences, our findings indicated that rates of both emotional and sexual abuse tend to be higher for girls than boys which is in line with findings from Moody and colleagues' (2018) research review. While Moody and colleagues (2018) found no sex differences for rates of physical abuse, females in our sample experienced physical abuse more often than males. It should be noted that Moody and colleagues (2018) reviewed literature that relied on self-reported lifetime maltreatment before the age of 18, whereas our data included reports by the child as well as information gathered from other sources (i.e., parent/guardian, file review, case worker, etc.). Research findings indicated that being a victim of sexual or emotional abuse and being female were associated with higher rates of disclosure and help-seeking behaviour (Meinck et al., 2017); however, disclosure was much less likely to occur before an investigation of physical versus sexual abuse cases (Rush et al., 2014). Given that reports of various forms of child maltreatment examined in this paper do not rely solely on self-report, the data utilized in this study is less likely to be affected by a reluctance to report physical abuse. These methodological differences could account for discrepancies in incidence rates of physical abuse among males and females. In line with findings from research using community (Ford et al., 2010) and youth justice-involved adolescents (Ford et al., 2013), our data revealed that females who were referred for mental health services were more likely to experience polyvictimization than their male counterparts. This sex difference is important for clinicians when developing intervention and care plans, but also when identifying future risks when the first maltreatment experience is reported.

Limitations and future directions

The findings of this study are not without limitations. Given that the data used in this study was cross-sectional, no causal statements or longitudinal predictions can be made. Moreover, in the present study, traumatic events were limited to six types experienced by children in the sample. Therefore, associations among other traumatic events and risk of self-harm and injury to others were not considered. As a result, children in the "no trauma" category might have experienced other traumatic life events which were not considered in the study, such as living in a violent neighbourhood, bullying, or death of a family member. Further, the polyvictimization variable was created by collapsing the data across all six types of traumatic events examined in this study. Although this approach results in a loss of information on specific trauma type combinations, it allowed for a more parsimonious and less complicated approach to assist with interpretation. Finally, as the sample used in this study consists of children referred for mental health services who received inpatient or outpatient treatment, the results may not be generalizable to other populations, such as children with developmental disabilities or children with physical health conditions. Future research should continue to work towards understanding the negative impacts of various types of maltreatment and polyvictimization, as well as the potentially differential needs of children in diverse settings (i.e., community, inpatient, outpatient, youth-justice) in an effort to better inform intervention programs.

Research implications

Researchers have highlighted that a thorough assessment of abuse history, including documentation regarding multiple forms of trauma, is necessary when working with youngsters in mental health settings (Adams et al., 2016). This is especially true given that children who present with more complicated victimization histories tend to

experience more severe emotional and behavioural problems. Consequently, a standardized assessment system that provides an integrated health information system across service sectors utilizing high quality data is critically important (Stewart & Hirdes, 2015; Hirdes et al., 2020).

The interRAI assessment system is utilized worldwide to improve outcomes for vulnerable populations. This is the first study to use the RiSsK and RIO algorithms to examine their relationship to polyvictimization. These algorithms rely on a comprehensive assessment of a child's needs and risks as part of the interRAI ChYMH assessment. These decision-support algorithms can be utilized to gain a more in-depth understanding of specific levels of risk of harm and can assist with improved triaging and prioritization (Marshall et al., 2020; Stewart & Babcock, 2020). Moreover, specific care planning protocols or collaborative action plans (Stewart et al., 2015) can be triggered to support evidence-informed interventions based on need (Arbeau et al., 2015; Stewart, Kam et al., 2015).

Given that in Canada suicide is the second leading cause of death among adolescents (Navaneelan, 2012), understanding the risk factors associated with suicide is paramount. Similarly, understanding that experiencing multiple forms of child maltreatment is related to major risk indices that require immediate intervention underscores the importance of assessing mental health issues through a trauma-focused lens to assist with care planning. While children exposed to polyvictimization are at heighten risk for harm-related behaviours, fostering resilience (e.g., trusting, secure attachment relationships, strategies to improve emotion regulation) can reduce the likelihood of continued anguish for these young victims. Given that these children have been exposed to such traumatic situations, early intervention is needed to develop more adaptive approaches to manage stress to enhance their quality of life. Furthermore, prevention programs (e.g., parenting classes; psychoeducation) are essential in order to reduce the suffering of our most vulnerable children. Those children who are exposed to multiple forms of maltreatment are often at imminent risk and require urgent intervention to prevent potential suicide attempts and harm toward others. Further, these results highlight the importance of understanding sex differences and the cumulative nature of polyvictimization on child outcomes.

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Conflict of interest

None of the authors has any financial or personal relationships with other people or organizations that could inappropriately influence their work.

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Mental health profiles of sexually abused youth: Comorbidity, resilience and complex PTSD

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Abstract

Objectives: The current study's objectives were to 1) determine if sexually abused youth in child protective agencies (CPA) were given more psychiatric diagnoses and exhibited more comorbidity than youth from the general population, 2) examine the comorbidity profiles of sexually abused youth over 10 years of medical consultations and hospitalizations.

Method: Diagnoses of 882 youth with a substantiated sexual abuse report between 2001 and 2010 at a participating CPA were compared to those of 882 matched controls ($n = 1764$).

Results: Results of generalized linear mixed models showed that sexually abused youth presented higher rates of all diagnostic categories and were up to four times more likely to present comorbid diagnoses. Latent class analyses among abused youth revealed four different comorbidity profiles; two more severe groups named complex trauma (11%) and dissociation (14%); and two less severe groups named depression (10%) and low or no comorbidity/resilience (65%). Youth with more cumulative maltreatment and greater number of years of data following CSA report were more at risk of presenting a comorbidity profile, while females were more likely to present a depression profile. Profiles of youth in the highest comorbidity class were similar to what is defined as complex trauma or complex post-traumatic stress disorder.

Implications: Sexually abused youth's varied profiles warrant varied interventions. Integrated trauma informed interventions are needed to address the cumulative maltreatment experienced and the psychiatric comorbidity some youth exhibit.

Keywords: Child maltreatment, child sexual abuse, complex PTSD, comorbidity, resilience.

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Introduction

Although child sexual abuse (CSA) is a major worldwide problem with social, public health and safety as well as economic impacts, it remains difficult to comprehend its full extent for two reasons: 1) a lack of consensus on how to define CSA and 2) important differences in how prevalence data is collected (Goldman & Padayachi, 2000; Johnson, 2008; Mathews & Collin-Vézina, 2019). Hence, the current study broadly defines CSA as "any gesture of a sexual nature, with or without physical contact, committed by an individual without consent from the person, or, in some cases, particularly that of children, through emotional manipulation or coercion" (Gouvernement du Québec, 2016). International data from a substantial meta-analysis suggest that 18% of women and 8% of men report having been sexually abused before the age of 18 (Stoltenborgh et al., 2011). When also self-reported, CSA prevalence is much higher (35.8-38%) in children and adolescents within youth protection agencies (CPA) than in the general population (Collin-Vézina et al., 2011; Pauzé et al., 2000). Importantly, it has been documented that CSA is grossly underreported to authorities (Stoltenborgh et al., 2011).

Although research has documented the short- and long-term consequences of CSA within CPA populations (Bourgeois et al., 2018), gaps remain in our understanding of the clustering of comorbid mental health outcomes. Existing research has mainly used variable-centered analyses, which may not capture heterogeneity among these youth. In addition, previous research has mostly relied on self-report measures and cross-sectional or retrospective methods, which entail some biases and limit our understanding of how CSA consequences evolve over time (Belsky, 1993; Brewin et al., 1993; Brownell & Jutte, 2013; O'Donnell et al., 2010a, 2010b; Stanley, 2003; Straus, 1998). To overcome some of these limitations, the current study will attempt to better understand the consequences of CSA using a person-centered approach and administrative longitudinal data.

Consequences of child sexual abuse

CSA increases the risk of psychiatric disorder by 2.5 folds (Fergusson et al., 2008). When assessed in childhood or adolescence, sexually abused youth tend to present a host of different mental problems, while about a third present no symptoms at all (for reviews see Finkelhor & Hashima, 2001; Kendall-Tackett et al., 1993; Putnam, 2003; Tyler, 2002). Indeed, higher rates of internalizing (e.g. anxiety, depression) and externalizing problems (e.g. antisocial behaviour), suicidal ideation, substance use and other psychiatric diagnoses (Choi et al., 2017; Fergusson et al., 2008), such as post-traumatic stress disorder (PTSD) and dissociation or psychosis (Bourgeois et al., 2018), are linked to CSA. When assessed in young adulthood, very similar consequences are reported (for reviews see Hillberg et al., 2011; Maniglio, 2009).

Although CSA does not seem to lead to consequences that are specific or unique, PTSD remains the most studied (Kearney et al., 2010; Putnam, 2003) and is among the most common disorders observed in sexually abused children and adolescents (Choi et al., 2017; Kendall-Tackett et al., 1993). A fourth of sexually abused youth under CPA care present with PTSD (Collin-Vézina et al., 2011; Daigneault et al., 2003). Some studies have assessed various disorders comorbid with PTSD like depression and suicidality (Brosbe, 2014; Oquendo et al., 2003), but failed to use a person-centered approach. Moreover, in most studies, documented consequences are self-reported. Hence, there is much need to specifically study wider co-occurrence of disorders, or diagnostic comorbidity, as a consequence of CSA in order to reliably identify symptom constellation variations and similarities within sexually abused youth. Doing so will thus ensure the most adequate and precise interventions in response to specific psychiatric profiles.

Symptom comorbidity

Some sexually abused children and adolescents tend to present complex adaptation profiles (Collin-Vézina et al., 2011; Daigneault et al., 2004; Tremblay et al., 2000) that could better be understood using a conceptualization based on complex post-traumatic reactions (Cloitre et al., 2009, 2013; Cook et al., 2005; Ford, 2011; Hyland, Shevlin, Elklit, et al., 2016; van der Kolk, 2017). Adolescents exposed to CSA present more comorbid mental health problems like PTSD, depression and suicidality than other youth who have not been sexually abused (Kilpatrick et al., 2003; Martin et al., 2004), even within those receiving psychiatric care who tend to present an array of complex psychological and behavioural disorders (Brand et al., 1996; Ford et al., 2011; Naar-King et al., 2002; Silverman et al., 1996). Among sexually abused youth with PTSD symptoms, although specific comorbidities have been documented (Ackerman et al., 1998; Brosbe, 2014), such as internalizing disorders (Brady & Caraway, 2002; Connor et al., 2004), and externalizing disorders (McLeer et al., 1998), studies tend to measure only two or three different diagnoses at a time (Kaplow et al., 2008).

Hence, sexually abused youth that present an array of different problems, usually corresponding to more than one different diagnostic category, can be attributed multiple diagnoses. The concept of complex trauma,

developmental trauma disorder, or complex PTSD (CPTSD; Cloitre et al., 2013; Hyland, Shevlin, McNally, et al., 2016) might be useful in explaining why some youth present various symptoms that can initially seem distinct, but better understood as a complex consequence of CSA. Although currently not retained in the DSM's fifth edition (American Psychiatric Association [APA], 2013) the concept of CPTSD has been studied and proposed to be conceptually distinct from PTSD (Cloitre et al., 2013; Hyland, Shevlin, McNally, et al., 2016) and clinically valid (Hyland, Shevlin, Elklit, et al., 2016). Currently, the diagnosis of PTSD includes four groups of symptoms: re-experiencing, avoidance, negative cognitions and mood, and arousal (World Health Organization [WHO], 2020). The proposed symptom profile of CPTSD includes all PTSD symptoms, plus an additional three categories that identify disturbances in self-organization, which may result from sustained and repeated interpersonal trauma. These categories are: (a) affective dysregulation, (b) negative self-concept, and (c) disturbed relationships (Ford & Courtois, 2014; WHO, 2020). Various functional domains can be severely impacted in the case of complex trauma, such as affect and behavior dysregulation, consciousness and cognition disturbances, alterations in attribution and schema, and interpersonal impairment (D'Andrea et al., 2012). This can result in youth being given multiple comorbid diagnoses, corresponding to current psychiatric nosology, but perhaps inaccurate to best describe many victimized children, thus providing them with inappropriate treatment.

The use of person-centered analytic techniques, such as latent class analysis, is gaining interest in determining whether there are distinct mutually exclusive groups of individuals based on reported experiences of maltreatment (Rivera et al., 2018), reported psychiatric diagnoses in CSA victims (Brodbeck et al., 2018) or trauma symptoms (Gallitto et al., 2017). Indeed, some studies have tried to better understand how CSA victims can be distinguished among themselves and compared to non-sexually abused individuals. Although there is vast heterogeneity, general findings suggest three to four distinct profiles with an incremental range in the severity of consequences between groups (i.e. none or very few, some or moderate, multiple and severe), as well as a dose-response association between the severity of CSA or maltreatment (all types including CSA) and symptoms (Brodbeck et al., 2018; Hébert et al., 2006; Shin et al., 2010). Most of these studies used cross-sectional designs and small samples, which limits the ability to determine the timing of events (diagnoses and CSA) and undermines statistical power. The use of prospective data, in the case of the current study, is extremely valuable.

Maltreatment co-occurrence

The growing research focusing on the effects of interpersonal trauma within child welfare involved youth (Daigneault et al., 2003; Tanaka et al., 2011; Wekerle et al., 2017) shows that adolescents involved in CPA have higher rates of serious mental health disorders compared with the general adolescent population. Furthermore, it has been found that among youth under CPA care, more than half had experienced more than four types of victimization in the past year (Cyr et al., 2013). Between 22% and 90% of maltreated youth or those involved in child welfare (Lau et al., 2005; Tourigny et al., 2008; Turner et al., 2010) and up to 69% in the general population report polyvictimization or cumulative traumatic experiences (Felitti et al., 1998; Finkelhor et al., 2009, 2015; Ford et al., 2010). Such high prevalence in the general population might be explained by the inclusion of non-traumatic adversity in some studies (e.g. parental substance abuse, serious illness, parental conflict) (Finkelhor et al., 2009, 2015). Although CSA is reported less frequently than other types of maltreatment (Brown et al., 2019; Stoltenborgh et al., 2011), it rarely occurs in isolation (Vachon et al., 2015). It is now documented that there is a dose-response effect when considering the consequences of cumulative maltreatment, where a higher number of distinct forms of maltreatment is associated with a greater number of symptoms of current distress (Finkelhor et al., 2009; Steine et al., 2017). Indeed, CSA has been associated with a three-fold greater weight than all forms of maltreatment and victimization taken together in predicting short- and long-term psychological consequences (Finkelhor et al., 2009). It is thus important to consider both the cumulative and specific effects of CSA.

Specific aims and hypotheses

The first aim of this study is to document the prevalence of diagnostic comorbidity of mental health disorders, using data from administrative databases of a universal public health insurance agency for children and adolescents up to 13 years following a substantiated sexual abuse report, compared with that of a matched group from the general population (children without substantiated CSA). The second aim is to document the diagnostic comorbidity profiles of these youth using a person-centered analytic approach and to underline the characteristics that distinguish them such as gender, age at CSA report as well as cumulative maltreatment in addition to CSA. The current study will palliate limits of previous studies with a matched cohort study design using longitudinal data from a universal public health insurance administrative database, while controlling for mental health problems preceding the CSA report

substantiation. Importantly, the current administrative data offers reliable and comparable diagnostic information for the substantiated CSA group as well as the general population group without CSA reports (matched), which palliates biases of prior self-report designs (Brewin et al., 1993; O'Donnell et al., 2010b; Straus, 1998).

Current literature allows us to generate the following hypotheses: the group of sexually abused youth will present 1) more mental health disorders in all diagnostic categories and 2) higher rates of comorbid mental health disorders than the general population. Furthermore, we expect to observe at least three distinct groups within sexually abused youth (Hypothesis 3): youth without diagnoses, youth with only one diagnosis, and youth with two or more different diagnoses. Groups of sexually abused youth with the highest diagnostic comorbidity are also expected to have the highest rates of cumulative maltreatment (thus a greater chance to present as complex trauma) when compared with abused youth presenting no diagnostic comorbidity or no mental health disorder diagnoses (Hypothesis 4).

Materials and Method

Data and sample

The current study selected all children who had a substantiated report of sexual abuse at a large urban CPA in Canada between January 1, 2001, and December 31, 2010. They formed the sexually abused group ($n = 955$). Personal information from the administrative databases of the universal public health insurance agency was matched to those from the CPA for 882 (92%) of the 955 children with substantiated sexual abuse by using participants' health insurance number, or their surname, name, complete address and date of birth. The Canadian public health system covers all Canadian citizens, those currently residing as well as authorized foreign nationals, with their accompanying spouses and children. It is likely that misspelling of administrative data (i.e. names, surnames and addresses) could explain unmatched cases. Recent results using this same database indicated that excluded unmatched sexually abused cases received fewer services than matched sexually abused cases, suggesting less severe diagnostic profiles (Daigneault, Vézina-Gagnon, et al., 2017).

To form the control group, each of the sexually abused participants ($n = 882$) was paired with another youth from the administrative database of the province's universal public health insurance. The criteria used were birth month and year, gender attributed at birth, geographical area from which sexually abused participants were selected, and an indicator of socio-economic level (i.e., eligibility to the province's prescription drug insurance plan). Bearing in mind that sexual abuse is grossly underreported to authorities (Afifi et al., 2015), even if no substantiated sexual abuse was reported during the 10-year recruitment, there is no way of knowing with certainty if some participants were exposed to CSA within the control group, meaning that some CSA most likely has occurred unreported. Furthermore, if reports were made, they could have been found unsubstantiated or made to another CPA if children moved from one geographic area to another. In both cases, this information would not have been available in the current data.

The final sample was composed of 882 children and adolescents for whom a sexual abuse report was substantiated within the CPA and 882 matched individuals from the general population (no reported CSA). Each of these two groups is composed of 661 girls (75%) and 221 boys (25%). This represents a total sample of 1764. The average age of the participants at the time of entry in the study (date of the substantiated report of sexual abuse to CPA) was 11.07, and previous analyses showed that boys were 1.4 years younger than girls at the time of the first CSA report (Daigneault, Vézina-Gagnon, et al., 2017).

In the sexually abused group, the number of different substantiated reports varied from 1 (40% of abused youth) to 4 (8%) ($M = 3.12$, $SD = 2.87$). This means that although CSA was the first substantiated report to CPA for most participants (88%), other maltreatment reports were also substantiated, whether prior to, after, or co-occurring with the sexual abuse, such as negligence (31%), physical abuse (10%), behaviour problems (8%) and abandonment (2%). At the end of the study, the principal reason for CPA involvement remained sexual abuse for most youth (60%). For some youth, though, negligence (28%), maltreatment (5%), behaviour problems (5%) and abandonment (1%) became the principal reason for receiving CPA services.

Measures

Sexual abuse. In the current study, sexual abuse was defined as "any gesture of a sexual nature, with or without physical contact, committed by an individual without consent from the person, or, in some cases, particularly that of children, through emotional manipulation or coercion" (Gouvernement du Québec, 2016). When a sexual abuse report is substantiated, it satisfies a series of criteria. It must first be retained for evaluation. Then, a social worker must assess if there is sufficient evidence to substantiate the CSA report and the case is either found to be 1) substantiated (sufficient evidence that CSA occurred), 2) suspected (suspicion of CSA but insufficient evidence to substantiate the allegations), or 3) unsubstantiated (enough evidence to refute CSA) (Gouvernement du Québec, 2008). The present study selected all children who had at least one substantiated report of sexual abuse between 2001 and 2010 (recruitment period) at the participating CPA to form the group of sexually abused youth. To avoid duplication of reports and participants, the first substantiated report of sexual abuse was considered for each participant and determined his or her time of entry into the study. All subsequent substantiated sexual abuse reports were calculated as additional to the first report. The control group, or matched group, included youth who resided in the same geographical area served by the participating CPA and most importantly, who did not have a substantiated report of sexual abuse between 2001 and 2010 at that same CPA (see procedures above for more detail on control group selection).

Maltreatment co-occurrence. For each sexually abused youth, data from the CPA was provided for all other substantiated reports on file, dating back to the first substantiated report and up until the end of the study December 31, 2013, which provides information on cumulative substantiated maltreatment. A report is substantiated when the security or development of a child is judged to be compromised – when "the child is abandoned, neglected, subjected to psychological ill-treatment or sexual or physical abuse, and unique to Quebec, if the child has serious behavioural disturbances" (Gouvernement du Québec, 2016). Hence, for each sexually abused youth, a global score of cumulative maltreatment was obtained by adding all substantiated maltreatment reports, resulting in a continuous variable ranging from 0 to 20. This information was unavailable for the control group.

Mental health. All diagnoses of mental and behavioural disorders related to medical services received and hospitalizations occurring between January 1, 1996, and March 31, 2013, were documented from the universal public health insurance agency and the Ministry of Health's administrative databases. The codes in these databases refer to the 10th version of the International Classification of Diseases (ICD; WHO, 2008), as it is the medical reference in the public health system. As described in Table 1, the following categories were used in the current study: 1) disorders due to psychoactive substance use (ICD code F10-F19), 2) schizophrenia, schizotypal and delusional disorders (F20-F29), 3) disorders of the adult personality and behaviour (F60-F69), 4) disorders of psychological development (F80-F89), 5) unspecified mental disorder (F99), 6) depressive episodes and disorders (F32-F39), 7) bipolar disorders and manic episodes (F30-F31), 8) reactions to severe stress and adjustment disorders (i.e. post-traumatic stress disorder, acute stress reaction and adjustment disorder; F43), 9) anxiety disorders and phobias (F40-F42), 10) somatoform and dissociative disorders (F44-F48), 11) eating disorders (F50), 12) behavioural syndromes associated with physiological disturbances (F51-F59), 13) hyperkinetic disorders and 14) conduct, emotion or social functioning disorders with childhood onset (F91-F99). For each of the 14 diagnostic categories, a dichotomous score was computed documenting whether each participant had at least one medical consultation or hospitalization for a diagnosis in that category after the first substantiated CSA report. This timeline was paired in the matched control group. A diagnostic comorbidity score was then calculated and varies from 0 to 14, with a higher score indicating greater diagnostic comorbidity in distinct diagnostic categories following the CSA report.

Control variables. A deprivation index (material and social) (Pampalon et al., 2010) based on postal code, which indicates the socio-economic level of the geographical area at the time of the first substantiated report of sexual abuse, was used and controlled for in all analyses within both groups. For participants in the matched control group, the index was calculated at the time of the first CSA report of the abused child they were matched with. The total number of medical services (consultations/hospitalizations) received for mental health issues between January 1, 1996, and the first substantiated CSA report, using the same diagnoses described previously, were also controlled for. This timeline was paired in the matched control group to create the control variable. Furthermore, using the same timeline in both groups, consultations and hospitalizations for mental retardation/intellectual disability diagnosed before the first substantiated report of abuse were controlled for, since it is a known risk factor of sexual abuse and mental health disorders (Euser et al., 2015). Finally, the number of years for which data could be collected for each participant, meaning number of years between first CSA report and end of the study, was also controlled for in subsample analyses

of sexually abused youth. All analyses were conducted with the SPSS 26 program (IBM Corp, Armonk, New York), with a $p < .05$ significance level.

Table 1. ICD-10 broad and specific diagnostic categories included in the study

Variables	Broader diagnostic categories (corresponding numbers)	Specific diagnostic categories (corresponding numbers)
Substance use	Mental and behavioural disorders due to psychoactive substance use (F10-F19)	Alcohol (F10), opioids (F11), cannabinoids (F12, sedatives (F13), cocaine (F14), other stimulants (F15), hallucinogens (F16), tobacco (F17), volatile solvents (F18), other (F19)
Schizophrenia	Schizophrenia, schizotypal and delusional disorders (F20-F29)	Schizophrenia (F20), schizotypal (F21), persistent delusional (F22), acute and transient psychotic (F23), induced delusional (F24), schizoaffective (F25), other (F28), unspecified (F29)
Personality	Disorders of adult personality and behaviour (F60-F69)	Specific personality (F60), mixed (F61), enduring personality changes (F62), habit and impulse (F63), gender identity (F64), sexual preference (F65), sexual development (F66), other (F68), unspecified (F69)
Development	Disorders of psychological development (F80-F89)	Development of language (F80), scholastic skills (F81), motor function (F82), mixed (F83), pervasive (F84), other (F88), unspecified (F89)
Unspecified	Unspecified mental disorder (F99)	Mental disorder, not otherwise specified (F99)
Manic/bipolar	Mood [affective] disorders (F30-F39)	Manic episode (F30), bipolar affective (F31)
Depression		Depressive episodes (F32), recurrent depression (F33), persistent mood (F34), other (F38), unspecified (F39)
Anxiety/phobias	Neurotic, stress-related and somatoform disorders (F40-F49)	Phobic anxiety (F40), other (F41), obsessive compulsive (F42)
PTSD		Reaction to severe stress and adjustment (F43)
Dissociation and somatoform		Dissociative (F44), somatoform (F45), other (F48)
Eating disorders	Behavioural syndromes associated with physiological disturbances and physical factors (F50-F59)	Eating (F50)
Physiological impact		Sleep (F51), sexual dysfunction (F52), psychological factors associated with disease (F54), abuse non-dependence substance (F55), unspecified (F59)
Hyperkinetic	Behavioural and emotional disorders with onset usually occurring in childhood and adolescence (F90-F98)	Hyperkinetic disorders (F90)
Conduct and social		Conduct (F91), mixed of conduct and emotion (F92), emotional (F93), social functioning (F94), tic (F95), other (98)

Results

Objective 1 (descriptive analyses)

Descriptive results presented in Table 2 show the percentage of participants who received services related to diagnoses in the 14 categories described previously. The highest rates of diagnoses for both CSA and control groups fell within the categories of neurotic disorders (specifically anxiety and phobias), conduct and social disorders with onset in childhood and dissociation and somatoform disorders.

Objective 1: Hypothesis 1

To determine whether sexual abuse was associated with higher comorbidity for mental health disorders, a negative binomial regression was used. This type of analysis is the most accurate to account for the matched-cohort design, whereby the identical values upon which the participants have been matched are eliminated from further consideration (Niven et al., 2012). Results showed that, controlling for material and social deprivation, intellectual disability and mental health prior to the CSA report, sexually abused youth were 3.6 times more at risk (95% confidence interval [CI] 2.13 – 6.01) of presenting with a mental health disorder in at least one diagnostic category than matched youth from the general population ($F(1,1688) = 15.41$, $p < .001$). One quarter of sexually abused youth presented very high diagnostic comorbidity prevalence (22%; presence of at least one diagnosis in four or more different categories), compared to a minority in the general population (6%).

Objective 1: Hypothesis 2

Descriptive results in Table 2 indicate that diagnostic comorbidity is much higher for sexually abused youth than for controls. Paired t-test results reveal that, on average, abused youth have significantly higher total diagnostic comorbidity scores ($M = 1.96$, $SD = 2.47$) than their matched-control peers ($M = 0.67$, $SD = 1.31$; paired $t(881) = 14.11$, $p < .001$).

Table 2. Diagnostic prevalence within each category and for comorbid category occurrences ($n = 1764$)

		Control (n = 882) %	CSA (n = 882) %
F10 - F19	Disorders due to psychoactive substance use	1.13	6.80
F20 - F29	Schizophrenia and delusion disorders	0.28	1.93
F60 - F69	Disorders of the adult personality and behavior	0.68	5.95
F80 - F89	Disorders of psychological development	2.10	6.35
F99	Unspecified mental disorder	1.36	6.63
F32 - F39	Depression	2.44	8.11
F30 - F31	Bipolar and manic disorders	0.17	1.02
F40 - F42	Anxiety and phobias	6.24	15.59
F43	Reactions to severe stress and adjustment disorders	1.53	6.07
F44 - F48	Dissociation and somatoform disorders	4.88	13.15
F50	Eating disorders	0.40	0.28
F51 - F59	Behavioral syndromes associated with physiological disturbances/physical factors	2.32	7.09
F90	Kinetic disorders with onset in childhood/adolescence	3.80	11.17
F91 - F98	Conduct and social disorders with onset in childhood/adolescence	5.61	13.49
0 diagnosis		71.32	37.96
1 diagnosis		13.41	19.89
2-3 diagnoses		9.72	20.26
4+ diagnoses		5.64	22.89

Objective 2: Hypothesis 3

To document the diagnostic comorbidity profiles of sexually abused youth, a series of latent class analyses (LCA) were used. This analysis was solely performed on data from the sexually abused group, because results showed diagnostic comorbidity levels were not comparable between groups and there were too few participants with four or more diagnoses in the general population group. Additionally, variables on which to compare the profiles, such as cumulative maltreatment, were only available for the sexually abused youth. LCA postulates that the unobserved homogenous subgroups in a heterogeneous population can be identified using identifiable variables, in this case mental health diagnoses (Collins & Lanza, 2010). This means the LCA estimates the probability of a presence vs. absence of diagnoses according to latent class membership. The LCA also estimates how many participants are expected to belong to each latent class. Using SPSS (Version 26) and a LCA model using R (R Core Team, 2017), LCA were based on the 14 dichotomous diagnostic category variables. To select the preferred model, we relied on the lowest value of the Akaike information criteria (AIC) and the lowest value of the sample-size adjusted Bayesian information criterion (BIC). Indicators like AIC and BIC have been shown to consistently demonstrate better fit of classes (Nylund et al., 2007). The general practice of LCA is to test a sequence of models, increasing the number of classes, and to choose the best fitting model according to adjustment indicators. As presented in Table 3, adjustment indicators were compared for solutions between two and five classes, and a four-class solution was retained.

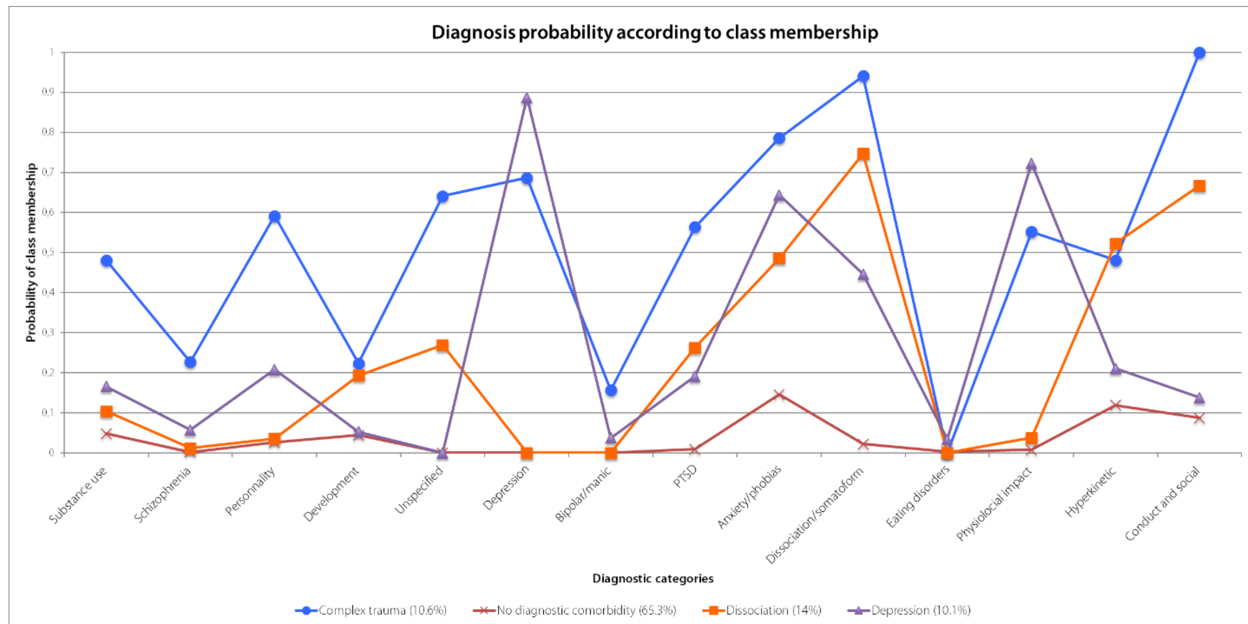
Results illustrated in Figure 1 describe the probabilities profiles for each of the four classes. A first class (65.3%), named "no diagnostic comorbidity," represented all sexually abused youth with no diagnoses and some with a very low probability of presenting one or two diagnoses. When compared to other classes, this first class is the largest and the one with least diagnostic comorbidity. A second class (14%) regroups abused youth with the highest probability of presenting at least one diagnosis from the dissociative disorders category in addition to conduct and social or anxiety disorder categories. This class was named "dissociation." A third class (10.6% of abused participants) named "complex trauma" emerged, grouping participants who all (100%) had a diagnosis of conduct or social disorder as well as a high probability of presenting diagnoses in multiple distinct categories. More than half of abused youth in that class presented diagnoses in the following categories: personality, depression, PTSD, unspecified, anxiety and phobias,

somatoform and dissociation, as well as disorders with a physiological impact. Indeed, all participants had at least one diagnosis in four or more different categories, meaning all participants presented highly comorbid profiles of mental health. A final and fourth class (10.1%) named "depression and physiological impact" grouped participants presenting mostly depressive disorders, physiological impact disorders and anxiety disorders.

Table 3. Model fit information for competing latent class models

No classes	Likelihood ratio	AIC	BIC
2	-5,725.00	11,507.99	11,666.78
3	-5,554.86	11,197.71	11,438.63
4	-3,550.07	7,218.13	7,500.84
5	-5,346.00	10,840.00	11,245.17

Figure 1. Probabilities of diagnosis and comorbidity by latent class.



Note. Red line (x): no diagnostic comorbidity/resilient class, orange line (squares): dissociation class, blue line (circles): complex trauma class, purple line (triangles): depression/physiological impact class.

Objective 2: Hypothesis 4

To determine if gender, number of years following first reported CSA and number of substantiated types of reported maltreatment were associated with the four profiles found in the latent class analysis, a multinomial regression was used. The regression was weighted according to the probabilities of belonging to each latent class identified. Model fit was good ($X^2 = 48.85(9)$, $p < .001$) and results showed that gender was only a predictor of membership in the depression class, with females being almost twice as likely as males to be included (relative risk = 1.94 ([CI] 1.06-3.58), $SE = .31$, $p = .03$). Cumulative maltreatment also predicted membership in the depression class (relative risk = 1.09 [CI] 1.01-1.18), $SE = .04$, $p = .045$). Both the dissociation and the complex trauma class membership could be predicted by a higher number of years following CSA (relative risk = 1.08 ([CI] 1.00-1.17), $SE = .04$, $p = .047$; relative risk = 1.21 ([CI] 1.10-1.32), $SE = .05$, $p = .008$, respectively) and a higher number of cumulative maltreatment (relative risk = 1.11 ([CI] 1.04-1.19), $SE = .03$, $p < .001$; relative risk = 1.16 ([CI] 1.08-1.24), $SE = .03$, $p < .001$, respectively). This means that abused youth were more likely to belong either to the complex trauma class or to the dissociation class with each additional year of follow-up data available and with each additional cumulative substantiated maltreatment report to CPA, which was not the case for the no diagnostic comorbidity class. Percentages of diagnostic comorbidity, cumulative maltreatment and gender by class membership are presented in Table 4.

Table 4. Maltreatment co-occurrence, comorbidity and gender according to class ($n = 882$)

	% Maltreatment types				% Comorbid diagnoses				% Gender	
Class	**0**	**1**	**2**	**> 3**	**0**	**1**	**2 or 3**	**> 3**	Females	Males
Low comorbidity	46	13	10	26	60	28	12	-	75	25
Dissociation	31	20	14	36	-	53	47	-	71	29
Complex trauma	23	17	18	46	-	-	-	100	73	27
Depression	41	10	8	41	-	43	57	-	85	15

Discussion and conclusion

The current study had two objectives. First, to document the prevalence of comorbid mental health disorders in the administrative databases of the universal public health insurance agency of children and adolescents up to 13 years following a substantiated sexual abuse report. Second, to identify trauma-related symptom profiles of these child-welfare-involved children and adolescents. Results have revealed that abused youth have a greater risk of presenting mental health disorder diagnoses (Hypothesis 1) and higher comorbidity (Hypothesis 2). They also revealed four distinct classes of comorbidity in the abused group (Hypothesis 3), which were subsequently associated with gender, longer follow-up periods and cumulative substantiated reports of maltreatment (Hypothesis 4).

As expected, sexually abused youth presented significantly higher rates of all mental health disorders categories put together and higher comorbidity than youth in the general population. Youth exposed to CSA were almost four times more likely to receive at least one mental health diagnosis from their physician than their general population peers. This is coherent with other study results (Collin-Vézina et al., 2011; Kessler et al., 2010; Stoltenborgh et al., 2011). Results also showed that the highest prevalence in specific diagnostic categories for the sexually abused group was for anxiety and phobias, dissociation and somatoform disorders, and conduct disorders. This is coherent with past study results that have shown that CSA victims tend to present more childhood mental disorders, anxiety and acute stress disorders, as well as conduct disorders (Spataro et al., 2004). Almost a quarter of sexually abused youth presented at least one diagnosis in more than four different diagnostic categories, compared to a minority of youth in the general population. Indeed, the varied and possibly highly detrimental impact of CSA on mental health has been shown previously (Fergusson et al., 2008) and was also found in the current study. We further investigated comorbidity profiles within sexually abused youth, which have shown to range from no comorbidity (0-1 diagnosis) to very high comorbidity (4-13 distinct diagnostic categories).

Results showing different mental diagnostic comorbidity profiles of sexually abused youth revealed that great heterogeneity was present. Specifically, we uncovered four different profiles (classes). We expected to find at least three different profiles, so results are coherent with our hypotheses in terms of the number of profiles but also the characteristics that define these profiles. Indeed, we predicted two classes with little diagnostic comorbidity (i.e. 0 diagnoses and 1-2 diagnoses) and found only one class (i.e. 0, 1 or 2 diagnoses; no diagnostic comorbidity class), which was also the largest of the four classes. Furthermore, two other classes of moderate severity emerged (i.e. depression and dissociation). Finally, as expected, we found a most severe class in terms of diagnostic comorbidity named "complex trauma".

In the "no diagnostic comorbidity" class (65.3%), which was the largest class, more than half of abused youth had not received medical services or been hospitalized for mental health problems, while the rest had at least one diagnosis in a single diagnostic category. It was the only class comprised of participants without diagnoses. This is similar to classes identified in previous person-centered study investigating community-based samples of trauma-exposed youth (53-58%, Ayer et al., 2011; Gallitto et al., 2017) and congruent with current literature on resilience following trauma and CSA among welfare involved youth (Collin-Vézina et al., 2011). Indeed, although CSA's potential to have a devastating impact on psychological health has repeatedly been demonstrated, a growing field of research also reveals that some individuals showing little negative outcomes or even positive outcomes following trauma may be considered resilient (Marriott et al., 2014). Studies have generally reported around a third of sexually abused youth to be asymptomatic (Collin-Vézina et al., 2011; Daigneault et al., 2007; Hébert et al., 2006). Perhaps the higher percentages of these resilient youth in the current study can be explained by our use of administrative data, which can underestimate the rate of disorders for which participants have not consulted a physician (Leach et al., 2015).

In "complex trauma", or the highest diagnostic comorbidity class, all participants presented at least one diagnosis in at least five different categories and had received medical services or been hospitalized for at least one

diagnosis in the conduct or social disorder category. Oppositional defiant disorder (ODD) and reactive attachment disorder of childhood were among those found in this category and have previously been found to be comorbid to PTSD following CSA (Ackerman et al., 1998; Brosbe, 2014). Furthermore, with more than half of the participants presenting diagnoses from the disorder categories of personality, depression, PTSD, unspecified, anxiety and phobias, somatoform and dissociation, as well as disorders with a physiological impact, links can be made with the concept of CPTSD (Ford, 2011; Ford & Courtois, 2014; Hyland, Shevlin, Elklit, et al., 2016). Indeed, the impact that trauma, like CSA, can have on systems of self-organization, specifically problems in affective, self-concept, and relational domains (Cloitre et al., 2013) varies between individuals and is heterogeneous. The affective domain problems that are characterized by emotion dysregulation (e.g., heightened emotional reactivity, violent outbursts, reckless or self-destructive behavior, dissociation under stress) are difficulties also found in diagnostic categories of personality, conduct and social, as well as somatoform and dissociation disorders (WHO, 2008). Self-disturbances are characterized by a negative self-concept whereby beliefs of worthlessness are persistent (Cloitre et al., 2013). These difficulties can also be found in categories such as depressive and personality disorders. Interpersonal disturbances are defined by persistent difficulties in sustaining relationships (Cloitre et al., 2013) and can be observed mainly in personality disorders, as well as conduct and social disorders. Furthermore, it is a fair assumption that youth with great comorbidity of mental health disorders might present such distress that it diminishes the quality of social relationships.

Participants in the complex trauma class also reported the highest levels of cumulative maltreatment compared to other classes. These results are coherent with our expectations, as it has previously been reported that a dose-response effect can be observed between cumulative maltreatment types and psychological consequences (Finkelhor et al., 2009). A recent study profiling boys has found similar results: males with most severe CSA profiles tended to report more emotional and physical abuse than males with less severe CSA profiles, and tended to present internalizing, externalizing and trauma symptoms in a dose-response manner pertaining to commutative maltreatment (Lyons, 2018). Results are, furthermore, indicative of what is defined as CPTSD (Cloitre et al., 2013; Hyland, Shevlin, Elklit, et al., 2016), whereby psychological disturbances and perturbed functioning can be observed in a variety of spheres and could be better explained in relation to interpersonal trauma.

Two other classes emerged from analyses, namely the "dissociation" (14%) and "depression" classes (10%). This is coherent with previous literature reporting higher rates of dissociative and mood disorders in sexually abused youth (Kisiel et al., 2014). The comorbid diagnoses within these classes were less prevalent than in the "complex trauma" class although more than half of the participants in the "depression" class presented one or two additional diagnoses in distinct categories. Relative to our initial hypotheses, these two classes indicate that there are more diagnostic comorbidity profiles (with two or three diagnoses) than expected, and that these distinct profiles are moderate in severity.

The study documented both male and female victims, although no gender differences were revealed in analyses except for the depression class. Results showed that females were twice as likely as males to belong to the depression class of comorbidity. Indeed, the percentage of males was the lowest in this class (15%) and underrepresented relative to their proportion in the abused group as a whole (25%). Although previous studies have found gender differences in the type of symptoms observed in abused children and adolescents (Collin-Vézina et al., 2011; Daigneault, Vézina-Gagnon, et al., 2017; Spataro et al., 2004), and specifically regarding PTSD in adults (Marx & Sloan, 2003), none has studied gender differences regarding diagnostic comorbidity. Results suggested that although boys were slightly younger than girls when the CSA report was substantiated, and although previous results have shown they tended to receive more medical services than girls for psychological disturbances five years after the substantiated CSA (Daigneault, et al., 2017), boys in the current study didn't present more comorbid diagnoses than girls. Such results are surprising considering participants in the "highly comorbid" class all presented at least one diagnosis in the conduct disorder category, and considering findings from previous research showing that sexually abused boys tend to present more externalizing problems than girls (Spataro et al., 2004; Tyler, 2002), specifically conduct disorders (Daigneault et al., 2017). The contrast with our previous results using this dataset might be explained by the fact that the current study considered diagnostic comorbidity, that is having at least one diagnosis in two distinct categories, and not frequency of mental health consultations and hospitalizations, as previously done. Perhaps boys consult more frequently, for more severe behavioural manifestations, but these manifestations tend to fall in the same large diagnostic category, thus weren't indicative of greater diagnostic comorbidity. Furthermore, the current study included 13 years of data, and not only five as previous studies have done, and this might have an effect on results.

The number of years following reported CSA was found to be a good predictor of class membership for the complex trauma and dissociation classes. This suggests that because these abused youth were also the ones exposed to the most cumulative maltreatment compared with other classes, we might be able to better understand the symptom profile of each youth when looking at the interpersonal trauma history and trajectory. The high number of comorbid disorders found in this study, as well as the heterogeneity within sexually abused youth, underlines the importance of considering the effects of trauma transdiagnostically, not only in the context of CSA.

Study strengths and limitations

This study is unique in demonstrating the longitudinal impact of substantiated CSA on mental health and comorbidity profiles in childhood, adolescence and early adulthood. The added value of this study was to show the impact of CSA prospectively, using a general population cohort matched on age, gender, regions and socio-economic levels, while controlling for mental health problems prior to the CSA report being substantiated to CPA, intellectual disability and social and material deprivation. Still, some limitations should be considered. First, we could only consider diagnostic comorbidity for a limited number of categories (i.e., fourteen). A category was comprised of a variety of diagnoses, and if a participant was given different diagnoses that fell within that same category, they were considered only as one diagnostic category. Further studies could include more distinct categories and consider the frequency of each diagnosis in analyses. Second, underrepresentation of the prevalence of mental health diagnoses is possible because only public medical data were used. As such, this dataset lacked data from the private sector, as well as from psychological consultations in all types of settings (i.e. public, schools, private sector). Furthermore, in some cases, patients might not have seen a medical doctor even if they were presenting symptoms. Third, because only one diagnosis can be entered in the system for each visit, it is possible that some disorders might have been incorrectly or partially entered. Indeed, if patients reported an array of various symptoms, doctors might have selected the best fitting diagnosis or the more prominent one. Fourth, and importantly, because CSA is widely underreported (Stoltenborgh et al., 2011), it cannot be assumed that all children in the general population had not been sexually abused. Indeed, they might have been exposed to CSA but not reported it to authorities – they might have reported it to another CPA than the one included in the study if they moved to another CPA sector during the study, or they might have reported CSA to the participating CPA outside of data collection years. All these limits might underestimate the prevalence of diagnoses and diagnostic comorbidity, as well as the differences between the groups, and thus limits the generalization of results to CPA involved youth.

Directions for future research and clinical implications

The current study's results add to past research in showing CSA's potential impact on the psychological well-being of children and adolescents, as well as on public health care systems. Early psychological assessments following substantiated reports of CSA, as well as all other types of maltreatment, are warranted to provide appropriate and immediate care. Moreover, half of the children and adolescents exposed to CSA in this study presented little or no mental health diagnoses according to the available medical data, indicating a potentially resilient functioning. These results should, however, not impede efforts to alternatively support and monitor youth who have been exposed to interpersonal trauma like CSA and maltreatment. They may have been underdiagnosed or not consulted for mental health problems even if they were suffering from important symptoms or disorders. Current findings reiterate the importance of tailoring interventions to the specific needs and clinical profiles of each abused child and adolescent, namely focusing on inner strengths and interpersonal features (i.e. adaptive coping strategies, attributional style, and self-esteem) as has been stated in past research (Marriott et al., 2014). Indeed, continued monitoring could be necessary, as symptoms can sometimes be latent and present themselves in later circumstances. Results also suggest two subgroups presenting some diagnostic comorbidity and one subgroup presenting very high diagnostic comorbidity, highlighting how symptoms following CSA and maltreatment can greatly vary, and necessitate individualized treatment. For the youth presenting such high diagnostic comorbidity, trauma-focused interventions could be warranted in order to address PTSD symptoms and behaviour problems, exhibit more positive functioning and improve strengths (Bartlett et al., 2018). Programs like trauma-focused CBT (TF-CBT; Cohen et al., 2012) and attachment, regulation and competency (ARC; Blaustein & Kinniburgh, 2010; Kinniburgh et al., 2005) are promising avenues to treat complex trauma and could be considered in the case of exposure to CSA and maltreatment. Current findings contribute to data for the inclusion of a complex PTSD diagnosis in the revised version of the fifth edition of the DSM (APA, 2013), as is the case in the 11th ICD version (WHO, 2020).

Sexually abused youth's varied profiles warrant varied interventions. Specifically, integrated trauma informed interventions are needed to address the impact of cumulative maltreatment experiences and the psychiatric comorbidity some youth exhibit over longer periods of time. Such information is important for evaluation and treatment planning, and specifically for medical diagnostic training. Indeed, some youth accumulating various diagnoses may benefit from a unified diagnosis of complex trauma, which is uncommonly used in Canada. Future studies could further investigate the developmental trajectories of youth presenting highly comorbid profiles and do so using national samples so that results may be generalized beyond youth under CPA care.

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Conflict of interest

The authors have no conflict of interest to disclose.

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"*All My Relations*": Examining nonhuman relationships as sources of social capital for Indigenous and Non-indigenous youth 'aging out' of care in Canada

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Abstract

Objective: Provincial and territorial legislation across Canada mandates child welfare agencies to release youth from their care at the age of majority. Consequently, youth exiting care tend to have limited support networks, mostly comprised of formal and short-term connections. There is a gap in research examining long-term supportive relationships from the perspectives of youth who have 'aged out' of care.

Methods: This PAR photovoice project involved 8 former youth in care ages 19 to 29 in Vancouver, B.C. over the course of 12 weeks, and entailed collaborative thematic analysis of the photographs. The lead researcher executed additional analysis following the data collection phase.

Results: Relationships to culture, spirituality and the land were identified as important by racialized and Indigenous youth. Animal companions also emerged as an important non-human connection. Key barriers included a lack of culturally matched foster placements and social workers, gentrification, housing restrictions and a narrow definition of family relationships. Key strengthening factors included supportive community organizations and culturally responsive workers.

Conclusion and Implications: Findings highlight the importance of including the relationships that matter to youth in care within child welfare decision-making and planning processes, and a need for systemic investment in long-term nurturing of those relationships. Connections that are outside of the traditional social capital framework for young people in care, such as non-human relationships, also need to be valued. By doing so, youth exiting care have a better chance at accumulating social capital and building a support network they can rely on during their transition to adulthood.

Keywords: Aging out; transition to adulthood; emerging adulthood; social capital; social support network; relational support; foster care; foster care; youth in care; care leavers; indigenous youth.

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Introduction

Demographic and sociological research over the last 20 years in most Western countries illustrates that young people are progressively taking longer periods of time to transition to adulthood. This phenomenon, termed by Arnett (2015) as emerging adulthood, is associated with young people transitioning to adulthood between the ages of 19 and 29. Canadian studies illustrate this demographic shift; in 2011, 42% of Canadian youth aged 20 to 29 were still living with their parents, compared to 27% in 1981 (Statistics Canada 2002, 2011). Leaving home has also become less permanent and reversible, as nearly a third of emerging adults return home after leaving (Beaujot & Kerr, 2007). The literature also illustrates that young people today continue to rely on their social support networks, including their parents, friends and communities, throughout their adult lives (Avery, 2010; Molgat, 2007).

In contrast, youth in long-term government care who are not adopted or reunited with their biological families are expected to rapidly transition to adulthood and become self-sufficient (Reid & Dudding, 2006). This is due to provincial and territorial legislation across Canada mandating child welfare agencies to release youth from their care at the age of majority (Mulcahy & Trocmé, 2010). In Canada, child protection legislation, supports and services are a provincial and territorial jurisdiction, and the Federal government is responsible for funding child welfare services for Indigenous children living in First Nations communities (Trocmé et al., in press). According to national estimates, approximately 10% (6,700) of the youth in care population 'ages out'[1] of the Canadian child welfare system every year (Flynn, 2003). In British Columbia, where this study was conducted, approximately 1,000 youth 'age out' of care on a yearly basis at age 19 (Vancouver Foundation, 2016).

Limited extended supports are available to youth exiting care in Canada as very few jurisdictions offer services past the age of majority, and those services tend to be particularly targeted to those pursuing post-secondary education or diagnosed with a disability (Ontario Provincial Advocate for Children and Youth, 2012a). All services are offered on a voluntary basis, meaning that youth over the age of 15 (14+ in Quebec) can refuse services and must immediately emancipate from the system (Trocmé et al., in press). Many jurisdictions are currently discussing the provision of continued supports for youth leaving care, with some provinces starting to make changes to their child protection policies and regulations.

Examples of such supports include tuition waivers and extended supports up to age 24 in Ontario and 26 in British Columbia, and a Free Tuition Program in New Brunswick up to a maximum of four years for college and undergraduate degrees (Trocmé et al., in press). However, it is important to note that none of these programs start automatically as youth 'age out' of care - they must know how to access these programs, apply for them, meet the restrictive eligibility criteria (e.g., enrolled in school full-time, be in a rehab program or life skills program) and be approved (Vine et al., 2020). In British Columbia, it is estimated that only one-third of youth exiting care can access some form of extended government supports (Hyslop, 2017).

Evidence from North American studies over the last three decades demonstrate that youth exiting care are at a much higher risk to face a multiplicity of challenges than their peers who are not in care, such as high rates of homelessness, under-education, poverty, mental health issues, substance abuse and early parenthood (Casey Family Programs, 2003; Daining & DePanfilis, 2007; Day et al., 2011; Koegel et al., 1995; Ontario Provincial Advocate for Children & Youth, 2012b). Research in other Western Countries such as the UK (e.g., Stein, 2006), Scotland (e.g., Stein & Dixon, 2006), France (e.g., Stein & Dumaret, 2011) and Australia (e.g., Mendes et al., 2014) reflect similar outcomes. To date, there exists limited peer-reviewed Canadian research on youth 'aging out' of care outcomes, although longitudinal outcome studies appear to be increasing in certain provinces such as British Columbia, Ontario and Quebec (e.g., Beaupré & Flynn, 2014; Goyette & Frechon, 2013; Rutman et al., 2007; Tessier et al., 2014).

It is important to note that while outcome comparisons of youth in care and those not in care may be impacted by population differences, some studies have also done comparisons with marginalized youth populations which show that the negative outcomes risk remains higher for the youth in care population. For instance, preliminary results from the first wave of a longitudinal study in Quebec illustrate that at age 17, 37% of youth in care from their sample (n = 1136) had experienced a period of dropping out of school, compared to 8% of their peers not in care and 12.4% of marginalized youth in Quebec (Goyette & Blanchet, 2018). The study also illustrates that youth in care are

[1] 'Aging out' refers to youth who have reached the age of majority and are no longer eligible for child protection services. Although it is a label that is not applied to youth in the general population, it is a term that most people who are/have been in care understand, and is widely used in the literature. 'Aging out' is in brackets throughout this article to de-normalize the term.

lagging academically compared to their peers: only 26.7% of youth in care aged 17 had never repeated a school year, compared to 79.8% of the peers not in care and 60% of marginalized youth in Quebec.

This article seeks to challenge the exiting care policy and practice status quo, and highlights the research showcasing the need for and benefits of long-term supportive relationships for youth 'aging out' of care. Current theoretical frameworks, such as permanency and social capital, are also challenged and reframed based on the relational realities of youth in and from care. Through the expertise of former youth in care and arts-based research, the study presented in this article sheds light on non-conventional forms of relations that are meaningful and supportive to their transition to adulthood - such as animal companions, culture, spirituality and the land.

Independent vs. interdependent living

Independent Living Programs (ILPs) tend to focus on tangible self-sufficiency skills (e.g., cooking, cleaning, budgeting, CV writing) and are typically offered by child welfare agencies in a classroom-based setting to help prepare older youth in care for the transition to adulthood. Unlike the US, which implemented the Fostering Connections Act in 2008, there exists no Canadian federal legislation mandating the provinces to assist youth leaving care, and thus no concrete accountability process for the provision of ILPs. The only three Randomized Control Trial (RCT) impact studies of ILPs conducted to date, all based in the US (California and Massachusetts), suggest that such programs are inadequate and do not increase social support nor employment outcomes for youth exiting care compared to "services as usual" control groups (Greeson, Garcia, Kim, & Courtney, 2015; Greeson, Garcia, Kim, Thompson et al., 2015; Zinn & Courtney, 2017). One of the studies showed a significant reduction in social support over time for those who participated in an ILP program in California (Greeson, Garcia, Kim, Thompson et al., 2015).

Canadian research on ILP impact remains limited, due to a lack of administrative data collection past the age of majority. In a systematic review of North American studies evaluating ILPs and Independent Living Services (ILS) between 2000 and 2018, Doucet, Greeson, and colleague (2020) found only three Canadian studies emerging from the grey literature, originating from British Columbia and Quebec. Canadian studies to date show mixed and limited impact on the outcomes of youth exiting care (Goyette et al., 2006, 2012; Rutman et al., 2014). Youth exiting care indicate that ILPs alone are not sufficient to meet their transition needs, as they do not tend to focus on emotional support and mentoring over extended periods of time (Geenen & Powers, 2007; Rosenwald et al., 2013).

Research illustrates that foster youth want permanence in their lives and to feel connected and supported by people who genuinely provide them with unconditional love (Sanchez, 2004). Innovative discussions in the child welfare literature call for an exiting care paradigm shift from independent living to a more realistic approach focused on interdependence (Antle et al., 2009; Goyette & Royer, 2009; Propp et al., 2003). Such an approach aims to normalize the reliance of marginalized populations on relational support networks throughout their entire lives rather than isolating and individualizing them.

A focus on interdependence emphasizes the importance of both formal and informal support networks for youth exiting care. By providing a safety net in times of crisis, interdependent networks can help youth surmount challenges for which they may not possess sufficient skills, confidence or time to handle on their own (Propp et al., 2003). Youth 'aging out' of care need to experience interdependence so that they can acquire the practical skills, knowledge and social capital to support their transition to adulthood (Jim Casey Youth Opportunities Initiative, 2011).

Research illustrates that youth exiting care identify biological families, caregivers, peers, natural mentors and intimate relationships as key meaningful connections in their lives (Duke et al., 2017; Smith, 2011; Thompson et al., 2016; Wade, 2008). When given the right tools and nurturing, these relationships can act as a buffer against many of the negative outcomes young people from care experience after leaving the child welfare system (Duke et al., 2017). Despite these findings, studies highlight that nearly half of youth 'aging out' of care do not have enduring relationships with supportive and caring adults (Greeson et al., 2010).

Youth 'aging out' of care and social capital

According to Coleman's interpretation of social capital theory, close relationships are an important source of support and resources that can contribute to a young person's growth and adjustment throughout their life course (Duke et al., 2017). These relationships, typically grounded in the family context, provide resources such as information channels, establishing shared social norms and values, and creating trustworthy social environments where obligations and expectations are shared and met (Coleman, 1988). Close family relationships, when combined with other types of

supportive relationships in the larger community, provide enhanced benefits for young people (Duke et al., 2017). The impacts of social capital on marginalized youth populations, such as rural, immigrant and urban low-income youth, are also well documented in the literature, with positive impacts demonstrated in areas such as help-seeking behaviours (Schenk et al., 2018), pursuing post-secondary education (Abada & Tenkorang, 2009) and reducing the risk of involvement with youth gangs (Briggs, 2010).

Research illustrates that many youth 'aging out' of care have significant social capital deficits due to the lack of stable family relationships during their time in care (Avery & Freundlich, 2009; Wildeman & Waldfogel, 2014). The impact of those deficits is heightened when accompanied with a lack of support during the transition to adulthood (Avery & Freundlich, 2009). While research stresses the importance of familial bonding in young people's successful development during the transition to adulthood (Avery, 2010), many of the familial connections of youth in care are lacking trust and reciprocity - core relational characteristics that are required for social capital to be obtained from such relationships (Barker, 2012). Thus, for youth 'aging out' of care, it is important to consider sources of social capital that are located outside of the traditional familial context and relevant to their lived realities. These include relationships with nonhuman sources of social capital, such as animal companions, culture, spirituality and the land.

There is emerging literature on the social capital potential of spirituality and faith (Candland, 2000), including in Indigenous communities and cultures (Ledogar & Fleming, 2008). Hill and Cooke (2013) refer to connections with Indigenous culture, spirituality and associated rituals, such as prayers and medicine, as "symbolic capital", and is a socially invested resource that is part of the Indigenous social capital framework. Spirituality can help Indigenous youth to feel grounded in their culture and increase resiliency (Hill & Cooke, 2013), a sentiment that was reflected in the recommendation developed by the youth co-researchers related to this theme as they called for increased access to cultural programs and retreats. Such programs and retreats are a form of bonding social capital (i.e., relations within the Indigenous community) and can help young people access symbolic capital (Mignone & O'Neil, 2005).

Research indicates that place attachment can serve as a resilience factor during periods of transition and uncertainty by fostering "individual, group, and cultural self-esteem, self-worth, and self-pride" (Hay, 1998 as in Dallago et al., 2009, p.149). Dallago and colleagues (2009) argue that place attachment also impacts a young person's sense of safety as well as their ability to acquire community-based social capital. However, for Indigenous and non-Indigenous youth in care, who tend to experience chronic displacement during their time in the system and afterwards, the opportunities for developing place attachment are few and far in between.

While research on the benefits of animal companions for youth 'aging out' of care is lacking, there is considerable research on the meaningfulness of animal companions for marginalized youth, particularly for homeless and street-involved youth. For instance, homeless youth identify animal companions as companions that provides them with unconditional love and significantly reduces their feelings of loneliness, depression and social isolation (Lem et al., 2016; Rew, 2000; Rhoades et al., 2015). Animal companions can also provide marginalized youth with psychosocial benefits, such as social interactions with people in the neighbourhood, that are otherwise difficult to access (Lem et al., 2016). There is emerging literature examining the animal companion connection as a conduit for social capital, which shows significantly higher levels of social capital for those with animal companions even after controlling for age, sex, education and children (Wood et al., 2005, 2017). Those with animal companions are more likely to feel connected and interact with the broader local community, and animal companions can facilitate the formation of new friendships (Wood et al., 2017).

The accelerated transition mandated by the child welfare system has also been shown to affect the ability of youth in care to self-focus, and limits their ability to build human and social capital to support them throughout adulthood (Courtney et al., 2012; Singer & Berzin, 2015). Age-based service cut-offs place an unrealistic expectation of instant adulthood upon them, one that many of their peers are not held to (Stein, 2006). These structural and systemic challenges can create social isolation and low levels of connectedness to their peers, school, community and those who they consider as family (Smith et al., 2015).

The perspectives of youth are often not considered in child welfare policy and permanency planning (Samuels, 2008). Consequently, child welfare permanency planning generally does not incorporate alternative paths to establishing permanent and supportive relational networks for youth 'aging out' of care, especially those that do not fit within traditional and legal family definitions (Samuels, 2008). As a result, youth who are unable to achieve permanency during their time in care are forced to leave at the age of majority with little to no sustainable social support system.

Thus, it is important to capture the perspectives of young people 'aging out' of care about the relationships that matter to them, as their own perceptions and experiences may vary from what adults might think they are experiencing. Considering these realities, this research sought to explore the following question: what kind of relationships are perceived by youth who have 'aged out' of care as supportive of their transition to adulthood, and how can those relationships be developed and nurtured in the long term?

Methods

Participatory Action Research (PAR)

PAR requires collaboration with those who are affected by the issue being studied, with the aim to build advocacy capacity and affect social change in the community (Rodriguez & Brown, 2009). This approach is rooted in transformative research with oppressed and marginalized groups, and aligns with the objective of this research: to provide a powerful platform for the voices of youth 'aging out' of care in a social action context. A PAR approach framed the research process and implementation, and incorporated youth engagement and partnership in the research proposal, design, data collection and analysis, and dissemination.

PAR also challenges the researcher-participant divide by equalizing power dynamics, engaging those with lived experience as experts of their own lives and humanizing their contributions to the research. Essentially, the participants are co-researchers who are, "at least to some degree, investigating themselves" (Hart, 1997, p.92), and should not be tokenized as mere participants in a scientific study.

There are several ways to do participatory research with young people, such as engaging them as partners in the project through an adult supporter or ally (Checkoway & Richards-Schuster, 2003). This approach is commonly used in PAR projects led and initiated by university researchers, and entails the development of intergenerational reciprocal relationships between the researcher and the youth. This process of mutual knowledge development and exchange allows for the adult researchers to better understand the world of young people, and for youth co-researchers to better understand the world of research and policy (Robin et al., 2015). For a project to be participatory, the researcher and the youth must share interpersonal and institutional power to move towards quality collaboration (Checkoway & Richards-Schuster, 2003).

Youth with care experience have expressed the need for PAR approaches to contribute to their liberation and healing (Doucet, Dzenghanin et al., 2020). When PAR approaches equalize the power dynamics that exist in research settings between the researcher(s) and the participants, feelings of systemic alienation and exploitation by former youth in care can be mitigated (Doucet, Dzenghanin et al., 2020). Also, PAR can contribute to the development of their political agency by providing a platform and opportunities to influence the political discourse on exiting care (Doucet, Dzenghanin et al., 2020).

Photovoice (PV)

PV is an arts-based qualitative method rooted in critical feminist theory, empowerment education, documentary photography, and social constructivism (Wang & Burris, 1994; 1997). PV employs photography and group dialogue - the fusion of images and words - as a means for marginalized individuals to deepen their understanding of a community issue or concern and explain their own experiences through critical reflection and dialogue (Palibroda et al., 2009). PV differs from traditional documentary photography in that it shifts the lens from a voyeuristic view to one that gives the camera to and empowers those with limited power, status and access to policy and practice decision-makers (Wang & Burris, 1994).

PV is an empowerment tool, through which marginalized individuals can work together to represent their own lived experiences rather than have their stories told and interpreted by others (Wang & Burris, 1994). Specific photographic techniques are utilized to teach marginalized individuals creative ways to show others the world through their eyes (Palibroda et al., 2009). The visual images and accompanying stories produced by a PV project are dissemination tools that can be used to reach and inform key stakeholders and policy decision-makers through various mediums, including an art exhibit (Palibroda et al., 2009).

This research method is a particularly powerful tool in engaging youth who have 'aged out' of care, as they are often socially and politically disenfranchised, isolated and in need of connections to the larger community. While the purpose of PV is to examine serious issues, it also incorporates fun, creative and collaborative research approaches,

which can encourage young people's willingness to participate (Blackman & Fairey, 2007). PV and PAR also provide an opportunity for co-researcher skill development through photography training, critical reflection, group dialogue and analysis, problem-solving, political engagement and advocacy, research, co-authorship, public speaking, as well as opportunities for personal growth (Blackman & Fairey, 2007).

Recruitment and sample

This study focused on recruiting young people, including Indigenous and LGBTQ2+ youth, between the ages of 19 and 29 who 'aged out' of care and resided in the Greater Vancouver area at the time of project recruitment and implementation. A focus on a 10-year age range was intentional: first, to reflect the age range defined as "emerging adulthood" by Arnett (2015), and second, to capture a variety of perspectives on supportive long-term relationships for youth 'aging out' of care. Recruitment of Indigenous and LGBTQ2+ youth was also intentional, due to their overrepresentation in the child welfare system. In British Columbia, 61% of all children and youth in care are Indigenous (Trocmé et al., in press). Estimates from the US showcase that LGBTQ2+ children and youth are 2.5 times more likely to be placed in foster care than non-LGBTQ2+ children and youth (Fish et al., 2019).

While the study employed convenience sampling recruitment techniques in all recruitment communications, it also incorporated purposeful recruitment techniques by emphasizing the intent to specifically engage and recruit Indigenous and LGBTQ2+ youth co-researchers. Recruitment was done by engaging with youth-serving organizations and agencies via email and phone, doing in-person presentations to various community youth groups, and circulating the project poster on social media. University ethics approval was obtained prior to the recruitment process.

A group of seven to 10 co-researchers is recommended as the ideal size for a PV research project, as it allows for a sufficient variety of experiences and ideas while providing enough time for each co-researcher to contribute to the project in a meaningful way (Palibroda et al., 2009). A group this size helps to maintain sufficient time at each session to answer questions, address sensitive issues and accommodate diverse learning styles (Palibroda et al., 2009). The study began with 11 youth co-researchers after making an exception for an additional Indigenous participant who ardently wanted to participate in the project; however, three of the co-researchers decided to end their engagement after the first six weeks of involvement. The final sample consisted of eight youth co-researchers; demographic information is outlined in Table 1.

Table 1. Sample Demographic Information

	Frequency
Ethnicity	
Indigenous	3
Mixed Iraqi/Indigenous	1
Mixed Ancestry	1
Ashkenazi Jewish	1
African Canadian	1
Caucasian	1
Gender	
Male	3
Female	4
Non-binary	1
LGBTQ2+	5
Age	
19	3
21-23	3
26-27	2

Data collection and project implementation

Twelve weekly group sessions were held between October and December 2017. A detailed project sessions implementation plan can be obtained by contacting the author. Informed written consent was received by the youth co-researchers, and all but one agreed to be publicly identified. The sessions were audio recorded and transcribed by the lead researcher; the transcriptions were then verified with the youth co-researchers to ensure transparency and ownership of their own narratives. Check-in and check-out exercises were facilitated at the beginning and end of each session to encourage the building of trust and to explore any challenges or breakthroughs that may have come up during the session.

At the start of the project, youth received photography training from a professional photographer, and were provided with digital cameras. The research team convened for two to three hours each week to examine and discuss the photographs submitted by each youth co-researcher and connect them to the research question. Each youth co-researcher submitted six to seven photographs over several weeks. The following questions guided the photo contextualization process during those sessions:

1. What does this photograph mean to you? Why is this photo in particular most significant to you?
2. How do you see this photo as a reflection of the issue of supportive long-term relationships - and one that is relevant to you as a former youth in care in your community?

3. What is the relationship between the content of the photo and how you perceive the community/the world around you? What recommendation for change in your community is associated with this photo?

With the assistance of the lead researcher, youth co-researchers employed thematic analysis of the photos and the photo contextualization transcripts. As part of the group analyses, youth co-researchers also developed concrete recommendations for change to child welfare policy and interventions related to the relationship-based themes that emerged from their photographs. During the last week of the project, a photo exhibit was held at a local art gallery, which was open to the community. Several key government officials and child welfare policy decision-makers were present, in addition to representatives from the community. After the completion of the data collection and project implementation phase, the lead researcher built on the thematic analysis completed by the youth co-researchers and conducted further in-depth thematic analysis of the photo contextualization transcripts. Youth co-researchers were consulted on these additional analyses for accuracy, approval and transparency purposes.

Results

Fifty-two photographs in total were submitted by the youth co-researchers. Forty-one key sub-themes emerged from the photographs; these sub-themes are divided across three thematic categories: (1) relationships that matter to youth exiting care; (2) barriers to establishing long-term supportive relationships; (3) strengthening factors in establishing long-term supportive relationships. While the results mainly focus on common sub-themes, individual sub-themes are also represented as the experiences of youth 'aging out' of care are not homogenous. While the research question examined all meaningful relationship types, this article focuses specifically on the key nonhuman relationships that youth co-researchers identified in their photographs. Table 2 summarizes the sub-themes across the three thematic categories.

Table 2. Themes emerging from photographs

Sub-themes	Frequency[2]
Theme: Nonhuman relationships that matter to youth exiting care	
Culture and spirituality	Universal
The land	Atypical
Animal companions	Atypical
Theme: Barriers to establishing long-term nonhuman relationships	
Housing	Universal
Lack of culturally matched placements	Common
Gentrification	Atypical
Narrow definition of family relationships	Individual
Theme: Strengthening factors in establishing long-term nonhuman relationships	
Supportive community organizations	Common
Supportive social workers	Atypical
Culturally responsive workers	Individual

Connection to culture, spirituality and the land

More than half of the youth co-researchers, particularly those of Indigenous and racialized backgrounds, expressed the need to be connected to their culture and their history. According to them, this is often a relationship component that was missing in their case plans during their time in care, and highly impacted their sense of belonging and identity. A lack of culturally matched foster placements was also identified as a barrier to forging and nurturing this type of connection. For most, connecting to their culture and spirituality occurred after they had exited care, through their relationships with culturally responsive workers, supportive community-based organizations and cultural groups. The youth co-researchers who had the opportunity to reconnect with their culture and spirituality felt it had a significant positive impact on their lives, and attributed their success to this connection. As one youth co-researcher

[2] Legend (drawn from Ladany, Thompson and Hill's (2012) labelling of the representativeness of themes): Universal = all or all but one youth co-researcher (7 to 8); common = more than half and up to all but two youth co-researchers (5 to 6); atypical = at least two up to half of youth co-researchers (2 to 4); individual = one youth co-researcher.

shared:

> *"[...] For me, culture is really important in my life, it's helped me build a sense of identity and feel connected. [. . .] After I aged out, we did a really good program where it would help me transition, so that introduced culture into my life. [. . .] I never had that growing up. [...] Growing up in care, my mom after she went to residential school, she didn't experience any of her culture or spirituality because it was not allowed. [...] Being able to pass [culture] along to the next generation is something that's important to me, which is cultural identity and spirituality. It just makes me feel calm and it helps out with finding myself.*" – Ronda

Other youth co-researchers struggled with the disconnect between mainstream Western culture and their own cultural roots, and voiced their desire to (re)connect with their cultural origins and spirituality (see Figures 1 & 2).

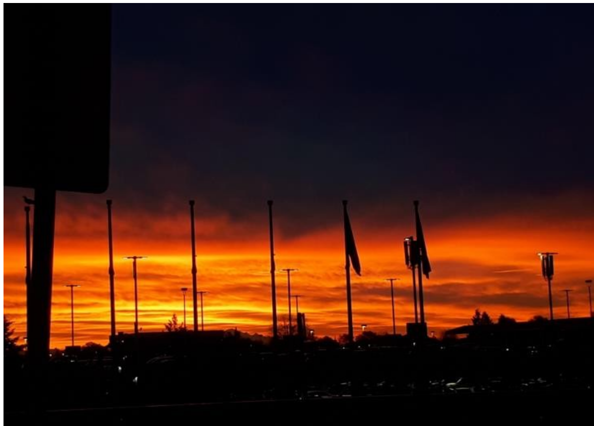

Figure 1. *Awaken With the Sunrise, Fire Keeper* by Raina Jules

Caption:
"I am back from the Dead.
My ancestors did not have time.
To share their teachings.
To pass on the torch.
To show me the way.
So, I rise with the morning sun.
So the fire within can show me the way."

"I was just thinking about it when I was looking at it [the sunrise] the other day, like how our ancestors would get up that early to do what they needed to do to start the day. [...] You have to get up to survive, and that's the first step. [...] I don't even know my grandparents [...]. Just seeing that [sunrise] made me think of them. [...] But I didn't know [my elders while I was in care]."

Figure 2. *Untitled* by [name redacted]

"[This photo] is about my spirituality and religion. That's basically a shelf in my room with a bunch of Judaica. When I was in care my social worker and foster parents didn't really understand what my religion meant or what it was. So, I didn't really get to practice much and I didn't really get to connect with other people much. Because they were like 'oh you can just do what we do, it's fine'. And I was like 'that's not really what I do'. When I did go and start connecting with people [of the same faith as me], it kind of made my life more significant in terms of connecting with the synagogue people. I found there is a common connection, even though we're all just Jews in the Diaspora."

For one Indigenous youth co-researcher, (re)connecting to the land meant a (re)connection to her ancestors and history; it was a relationship that was intertwined with culture and spirituality, and had been damaged by the child welfare system through displacement and intergenerational trauma from residential schools. It was also a relationship she could pass onto and share with their children (see Figure 3).

Most Indigenous youth co-researchers expressed a sense of grief and loss due to experiencing multiple layers of intergenerational displacement and trauma through the removal from their communities of origin and simultaneous separation from their siblings. The removal from their communities of origin also impacted their ability to form cultural connections to the land; this is termed in the literature as place attachment, as young people develop a deep emotional bond towards specific geographical places and structures over time due to repeated positive interactions (Dallago et al., 2009).

Another co-researcher shared his connection to his neighbourhood and the comfort and sense of belonging he found in a part of the city constantly threated by increased gentrification (see Figure 4).

Figure 3. *The Fire Within* by Ronda Merill-Parkin

Caption:

"The land that you walk on
Is a part of
Those before
Those who follow
It is a part of me
It is the fire within."

"I always have been drawn to being on the land, I really enjoy it, that's where I'm most at peace, I'm most calm. [...] So it [the photograph] represents my burning desire to reconnect [with the land]. I think we're so colonized now that a lot of us forget our relationship with the land and how important it is to connect with the land. In Aboriginal culture and spirituality, it's really important to protect the land. Just to have the desire within me is really important to pass it down to my daughter."

Figure 4. *Comfort* by Harrison Pratt

Caption:

"Rundown buildings, unkempt lawns, and graffiti keeps my neighbourhood safe from gentrifying developers. Paradoxically, developers make living conditions worse for low-income people. Higher rents, displacement, and replacement by yuppies are a looming threat from the corporate world. Youth-in-care can't afford to lose the last remaining neighborhoods they call home."

Animal companions: More than just animal companions

Nearly half of the youth co-researchers shared photographs of their animal companions, referring to them as family. All youth co-researchers expressed that housing restrictions were a major barrier in being able to have an animal companion, and that the child welfare system's narrow definition of *family* did not consider animal companions (see Figures 5 & 6).

Three of the youth co-researchers had animal companions at the time of the study, and one of the youth co-researchers had a strong desire for an animal companion but was unable to obtain one due to housing restrictions in her apartment building. Those who had animal companions expressed that they were more than just a pet: they were considered as family members and a source of relational stability. As one youth co-researcher shared, "*I feel like I've created a new family for myself.*"

In terms of benefits, one youth co-researcher expressed that their animal companion helped to develop their nurturing capacity towards themselves as well as others, and improved their mental health. Another youth co-researcher shared that their animals had greatly improved their quality of life, while another emphasized the relational stability and unconditional support provided by the relationship. Those with animal companions also reflected on the interaction between people who came into their home and their animal companion, and how it improved their own connections to others. For one youth co-researcher, their animal companion was the greeter of the house, making people feel welcomed; for another, their animal companion acted like the landlady with their roommates, as someone who "*comes and checks on you*".

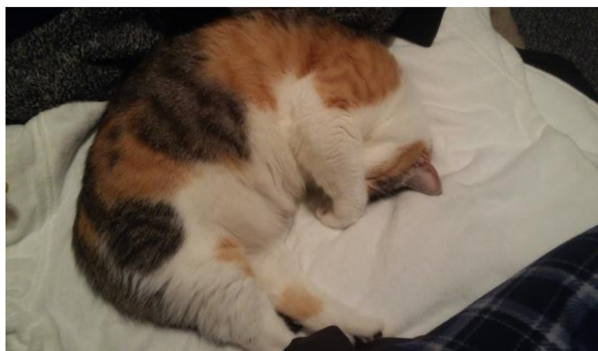

Figure 5. *Fat Rolls* by Sabien Vanderwal

Caption: *"Part tabby, part calico - this is my service animal."*

"[…] with animals, they give you such unconditional love and it's always going to be unconditional. Like it doesn't matter if I change the type of food she's eating or if I don't give her pets one day or I accidentally step on her tail - yes, she's going to be mad at me if I step on her tail, but in the end, she still going to love me because she's that type of cat. She's a therapy animal, she's my service animal. She means the world to me, and she's my baby and I love her."

Figure 6. *Rescue Family* by Tahsina Al-aibi (Fish)

Caption: "*These are my pets. When I look at this photo I see my family. All three were rescues. The dragons are named Yin and Stumpy-Yang, they came into my life in January 2016. My cat Sushi came into my life only a couple of months ago. All my pets have improved my quality of life, and I feel I can relate to them because I was also a rescue. Sometimes living alone can be really tough, and animals make it a lot better.*"

However, the barriers to crucial basic needs, such as shelter, were also exacerbated by having an animal companion. Several youth co-researchers had to hide their animal companions from their landlords in fear of getting evicted due to restrictive tenancy laws. For one youth co-researcher, they had been able to get their animal companion certified as a service animal for their post-traumatic stress; however, the process to obtain the certification was complicated and lengthy and they still experienced issues in obtaining housing. These barriers were also highlighted in the recommendations developed by the youth co-researchers, as they called for the removal of barriers to obtaining service or therapy animal certification and to accessing affordable housing.

Discussion and implications

Much of the research on social capital and relational networks for youth 'aging out' of care focuses on relationships with humans, particularly with adult caregivers, kin and peers. Due to the broad research question and participative nature of the project, youth co-researchers identified key relationships outside of the normative confines of social support networks and social capital theory; they assigned importance to nonhuman relationships, such as with culture, spirituality and the land. Traditional social capital conceptual frameworks have been criticized as being colonial in nature and not considering the symbolic capital that is intertwined within sources of Indigenous social capital (Hill & Cooke, 2013). More participatory research needs to be done in this area to reflect ways of knowing, doing and relating for Indigenous youth in care.

Relationships to the land also emerged from the findings, which connects to the literature on place attachment (Dallago et al., 2009). While research highlights the negative psychological impacts of place loss on children and youth during natural disasters, such as grief and alienation (Carroll et al., 2009), further research on the impacts of place loss and place attachment for youth in and from care is required. In addition, child welfare policies and practices need to focus on providing increased opportunities for long-term positive connections to the land and the community for youth while they are still in care, as those attachments can potentially act as a buffer to the challenges experienced during the transition to adulthood.

Animal companions emerged from the findings as another important nonhuman relationships. The social capital and resilience benefits outlined in the literature were echoed by the youth co-researchers in this study who had an animal companion. The liabilities associated with having an animal companion, such as the ability to access housing, certain community services, such as shelters and drop-in clinics, and employment opportunities are also reflected in the youth homelessness literature (Lem et al., 2016; Rhoades et al., 2015). It is thus important for service providers and policy decision-makers to consider the importance of animal companions for marginalized youth, and ensure access

to pet-friendly services and supports. Young people from care should not have to decide between giving up a family member to access crucial supports or becoming homeless. In addition, it is important to note that most of the literature on social capital and animal companions does not focus on marginalized populations, and further research on the connection between those having an animal companion and social capital for youth 'aging out' of care is required.

This project has several limitations. Photovoice requires group discussions with the youth co-researchers over an extended period rather than one-on-one interviews; this can increase the risk of certain voices being more prominent while the voices of timid others being less pronounced. However, the lead researcher made efforts to counter this risk by facilitating inclusive weekly group discussions, and the photo contextualization process allowed for each youth co-researcher to present their photography work, views and expertise. The extensive time commitment and emotional labour required for this project also impacted youth co-researcher retention. Three youth co-researchers, all of Indigenous background, were unable to remain engaged with the project after the first six weeks due to feeling overwhelmed by the project requirements. In addition, the purposive and convenience sampling methods used for this project may have excluded young people from care who are often the most silenced, such as street-involved youth and those involved in the criminal justice system.

However, this project also has several strengths. The lead researcher is a former youth in care, which helped build a rapport of trust and reciprocity with the youth co-researchers. The required prolonged engagement also helped to develop a safe and trusting group dynamic, and encouraged youth co-researchers to be transparent and truthful in their sharing of knowledge. Member checking, peer debriefing and support was built into the project process, and youth co-researchers engaged in ongoing constructive criticism and feedback on the data collection, analysis and dissemination processes. The PAR approach also allowed for youth co-researchers to own the project and be recognized in the community and by key policy-decision makers as experts on their own lives.

This research provides a deeper understanding on the types of relationships that matter to young people from care, and how they can be better developed and nurtured over time. The participatory nature of the project allowed for themes outside of the confines of the traditional relational boundaries of social capital theory, such as nonhuman relationships, to emerge from the youth co-researchers' contributions. To develop a social capital framework that is relevant to the realities of youth exiting care, further research on the benefits of nonhuman relationships is required.

There is a well-known Indigenous phrase, "*all my relations*", that emphasizes the interconnectedness of human beings to the universe (Kaminsky, 2016). This Indigenous philosophy can also be applied to the relational needs of all youth 'aging out' of care. Child welfare policies, decision-making and practices need to invest in all the relations of youth in care - including to the spiritual, cultural, earth and animal worlds - and ensure their continuity during the transition to adulthood. This can be done through increasing access to community-based cultural programs, and matching Indigenous and racialized youth with culturally responsive social workers and foster placements. Eliminating barriers to housing and support services for those who have animal companions is also key in sustaining those connections, as well as ensuring therapy or service certification for animal companions. By doing so, youth exiting care have a better chance at accumulating social capital and building a support network they can rely on during their transition to adulthood.

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Conflict of interest

Author declares no conflict of interest.

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Trauma-informed care in child welfare: An imperative for residential childcare workers

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Abstract

Context: Rates of traumatization among residential child welfare professionals are alarmingly high. The well-being of these professionals is associated both with their intention to stay in their jobs and outcomes of children in their care. Several risk factors threaten the well-being of child welfare professionals, including primary and secondary exposure to experiences with the potential to provoke posttraumatic stress reactions.

Objectives: This manuscript details experiences empirically shown to have potential negative impacts on professional well-being, discusses why these impacts are of particular concern for residential childcare workers, and describes the types of organizational cultures and climates that appear to mitigate these negative impacts.

Implications: Trauma-informed care at the organizational level is proposed both as a means to reduce harm to child-welfare professionals and promote the rehabilitation of children within the child welfare system.

Keywords: Residential childcare workers; secondary traumatic stress; trauma-informed care; child welfare; educators.

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Introduction

The well-being of residential childcare workers (RCWs)[1] is associated with professional turnover, intention to leave, and the outcomes of children and youth in their care. This manuscript details experiences empirically shown to have potential negative impacts on RCW well-being; discusses why these impacts are pertinent among RCWs and the children and youth they serve; describes promising organizational strategies to mitigate potential negative impacts; proposes the implementation of TIC at the organizational level as a double-pronged strategy to promote the recovery of children and youth within the child welfare system, and to reduce harm to the well-being child-welfare professionals.

Residential Child Welfare Work: Impacts of treating trauma exposed children

Residential childcare workers (RCWs) are routinely exposed to children's experiences of maltreatment and neglect (Caringi & Hardiman, 2011; Cornille & Meyers, 1999; Pryce et al., 2007; Regehr et al., 2005). Such exposure to potentially traumatic experiences can not only influence professional intent to leave, but also reduce RCWs capacity to fully engage in helping relationships with the children in their care (Middleton & Potter, 2015; Pryce et al., 2007). Intention to leave child welfare practice contributes to workforce instability in the child welfare system, which has been associated with shorter lengths of placements, more placements in the future, and other negative impacts for children in care (Hébert et al., 2016; Strolin-Goltzman et al., 2010; Tremblay et al., 2016). Difficulties retaining professionals in the child welfare system also contribute to high financial costs and reduced service capacity (Boyas et al., 2012; Chernesky & Israel, 2009; Graef & Hill, 2000; Itzick & Kagan, 2017; Madden et al., 2014; McGowan et al., 2009; Mor Barak et al., 2001; Nissly et al., 2005; Tollen, 1960). Many additional factors impacting the intent of child welfare professionals to leave their positions have been identified: burnout; personal commitment; self-efficacy; demographic characteristics; availability and efficacy of supervision; job satisfaction; organizational commitment; general organizational practices; caseload size; salary issues; and, moral distress (Brend et al., 2020; Strolin et al., 2006). Scholars have also examined how on-the-job violence impacts child welfare workers. Physical assault and threats made by children or their family members are violent acts found to be routinely encountered by RCWs (Geoffrion & Ouellet, 2013; Lamothe et al., 2018; Littlechild, 2005; Robson et al., 2014; Shin, 2011; Van Hook & Rothenberg, 2009). The pervasiveness of such violence has been associated with impacts to RCWs and other child welfare professionals' psychological well-being, loss of motivation, turnover intention, sick leaves, and emotional detachment from, or avoidance of, clients (Geoffrion & Ouellet, 2013; Lamothe et al., 2018). Preventing and reducing the potentially harmful impacts of exposure to traumatic experiences among RCWs is of central importance towards promoting strong helping relationships, reducing voluntary turnover, and strengthening outcomes for children in residential care.

Children placed in residential treatment have high rates of exposure to many adverse experiences. Among Canadian children aged 7-15 placed in residential child welfare settings as a result of an estimated 2182 maltreatment investigations, maltreatment was confirmed for 83%, suspected for 7%, and not verified for 10% (DuRoss et al., 2019). Maltreatment included physical and sexual abuse, neglect, emotional maltreatment, and exposure to domestic violence. Such experiences during early childhood, specifically within caregiving relationships and over time, are termed "complex trauma" (Cook et al., 2005; Pearlman & Courtois, 2005; van der Hart et al., 2005; van der Kolk et al., 2005). Children impacted by complex trauma can meet the diagnostic criteria for post-traumatic stress disorder (PTSD), a mental health issue characterized by symptoms such as extreme and prolonged distress, uncomfortable affect (irritability, anger, fear, guilt), inability to feel pleasurable emotions (happiness, satisfaction, love), and negative beliefs about the self (American Psychiatric Association [APA], 2013b). Reactive Attachment Disorder and Disinhibited Social Engagement Disorder are also more common among these children. The former being characterized by a lack of engagement in relationships with caregivers and the latter by an overly familiar engagement with unknown adults (APA, 2013c). Additionally, data reported for 1699 children and youth (aged 0-21) shows these children often have disturbances in multiple developmental domains, including affect regulation, attention and concentration, impulse control, aggression or risk taking, somatization, conduct or oppositionality, age-inappropriate sexual interest, activity or avoidance, attachment, or dissociation (Spinazzola et al., 2005). The adversity children experience can impact their health, behaviour, and social capacities. These complex and challenging impacts can require specialized rehabilitative treatment in residential child welfare settings.

[1] RCWs are helping professionals working in residential child-welfare and youth justice settings such as group homes and rehabilitation facilities.

It is also highly likely that children in placement without confirmed maltreatment reports have nonetheless been exposed to other forms of adverse experience. Returning to the 17% of Canadian children in placements without substantiated maltreatment, researchers hypothesized that the majority of those placements resulted from voluntary care agreements (Child Welfare Research Portal, 2010). Such agreements are often struck when parents or caregivers are unable to manage their children's behavioural or emotional needs. Indeed, 81% of all children in placement were reported to have behaviour problems, and 70% had physical, emotional, or cognitive problems. There is mounting evidence that children identified as having behavioural issues, are at high risk of abuse, neglect, or other traumatic exposures (Baglivio, 2018; Ford et al., 2012). DuRoss et al. (2019) found multiple potential risk factors for traumatic exposures other than maltreatment related to the caregivers of children in residential care. The parents of children in care were reported to have few social supports (40%), experience intimate partner violence (35%), suffer from mental health issues (34%), have a substance abuse issue (28%) and to have their own history of maltreatment as a child (28%). Each of these parental risk factors has been positively associated with the sequalae of complex trauma in children (Catalan et al., 2017; Felitti et al., 1998; Lünnemann et al., 2019). Indeed, the strongest predictors of adult PTSD include trauma severity, life stress, lack of social support, and peritraumatic psychological processes (Brewin et al., 2000; Ozer et al., 2003). Taken together, these findings suggest that all children placed in residential care might benefit from a therapeutic approach designed for the rehabilitation of post-traumatic stress and developmental disturbances. Indeed, involvement in the child welfare system itself can either promote the resilience of at-risk children or contribute further to the risks they face (Ungar, 2005).

Trauma Informed Care (TIC) necessitates that organizational practices and policies are driven by a large data base of trauma-focused research that can be used to establish practice standards. Fortunately, the trauma literature is appropriately nuanced to consider the developmental needs of children across the lifespan, and provides appropriate guidance on how screening, assessment, practice and the service delivery context should be adapted in an age and skill-based manner. This empirically driven developmental tailoring and contextualizing, guided by the trauma informed care perspective, prevents harm to those who may otherwise be subjected to interventions or practices that are not matched to their needs.

Broad consensus among experts treating children and youth impacted by complex, or interpersonal trauma, is that the most effective therapeutic responses occur within culturally relevant, secure interpersonal relationships (Blaustein & Kinniburgh, 2018; Brandt et al., 2014; Briere & Scott, 2015; Courtois & Ford, 2013; Ford, 2014; Strand & Sprang, 2018; Ungar, 2013). Early childhood development takes place within the context of attachment relationships, therefore the quality of the attachment relationships a child has impacts their development (Beebe & Lachman, 2002; Bowlby, 1988; Fonagy & Campbell, 2015). For children impacted by complex trauma, their capacity to integrate traumatic self-states and events, and recover typical development is strongly associated with their access to a secure caregiver (Blaustein & Kinniburgh, 2018). Therefore, the professionals who care for children placed in residential settings day-to-day are in key positions to act as secure bases. In this role, RCWs have a unique capacity to serve as potential professional attachment figures for these children (Brend et al., 2013). Paradoxically, this relational proximity to the children in their care also puts RCWs at risk of harmful impacts associated with secondary exposure to adverse experiences–feeding the cycle of workforce instability. Most trauma-informed evidence-based practices that could be delivered in residential settings involve the creation and processing of a trauma narrative, or other exposure-based techniques that may intensify indirect transmission of traumatic material.

Understanding secondary exposure to adverse experiences among RCWs

A search of six databases (SocIndex, PsycInfo, CINAHL, Cochrane, Social Services Abstracts, Social Work Abstracts, Google Scholar) up to and including 2019 returned 970 results using the keywords "child welfare", "youth protection", "child protection", "vicarious trauma", "compassion fatigue", "secondary trauma*". Narrowing the inclusion criteria to empirical, peer-reviewed studies with aims related to the well-being of RCWs, this number dwindles to eleven available publications. While there is very limited empirical literature related to post-traumatic stress among RCWs, elevated rates of traumatization have been shown among diverse human service professionals in related professional roles. Captured using various concepts that employed the same, or similar, diagnostic features as PTSD–the adverse impacts of exposure to client trauma have been termed vicarious traumatization, compassion fatigue, and secondary traumatic stress disorder (APA, 2013a; Figley, 1995; McCann & Pearlman, 1990; Stamm, 1995). For clarity, all study of harmful impacts related to professional exposure to the adverse experiences of clients is here grouped under the term secondary traumatic stress (STS) as proposed by Molnar et al. (2017). Contrasting the STS rates of human service professionals with rates of PTSD in the general population offers dimension to the manifestation of traumatization

among human service professionals. To elaborate, the prevalence rate of PTSD at age 75 in the general population is 8.7% (Kessler et al., 2005). In contrast, among human service professionals the following cross-sectional rates of traumatization have been reported: Social workers, 15% (Bride, 2007); Social workers working with survivors of family or sexual violence, 29% (Choi, 2011b); Southern American child protective workers, 37% (Cornille & Meyers, 1999); Domestic violence advocates, 43.7% (Slattery & Goodman, 2009); Children's Aid social workers in Toronto at intake, 52%, in family services, 64% and, in children's services, 75% (Regehr et al., 2005). Audin et al. (2018) sampled 100 professionals working in residential child welfare settings in the United Kingdom (including management and administration) and found a rate of 26%; Borjanić Bolić (2019) sampled 36 Serbian residential services workers and found a rate of 15%. Elevated rates of traumatization among these two international samples coupled with elevated rates among diverse professionals in similar professional roles suggest that RCWs occupy an occupational group at elevated risk of STS.

Child welfare work has long been recognized as a risky occupation (Cieslak et al., 2014; Lakin et al., 2008; McElvaney & Tatlow-Golden, 2016; Pryce et al., 2007). Using statistical comparisons, Sprang et al. (2011) found that reported occupation as a child welfare worker was more likely to be independently correlated with elevations in secondary trauma and burnout, controlling for other types of behavioral healthcare professional groups. In efforts to understand why some professionals were harmed while others not, Hiles Howard et al. (2015) examined relationships between professional quality of life, adverse childhood experiences (ACEs), resilience, and work environment in a sample of child welfare professionals working in the foster care system. Participants in their study did have elevated rates of multiple ACEs compared to normative sample data for the general population (4 or more ACEs: 25.1% v. 12.5%). Contrary to their hypothesis however, there was no relationship between ACE history and STS. Indeed, as a group those with higher ACEs were found to have elevated professional quality of life. Findings are mixed regarding the influence of prior personal trauma on STS among human service professionals. Kassam-Adams (1998) showed childhood trauma as predictive of STS while others failed to show a direct relationship between child or adult trauma history and STS (Bober & Regehr, 2006; Follette et al., 1994; Schauben & Frazier, 1995). Returning to Hiles Howard et al. (2015), factors predictive of poor professional quality of life were "low levels of resilience and controlling organizational leadership" (p. 141). In another study drawing child welfare workers in community-based care organizations in central Florida, Van Hook and Rothenberg (2009) found that younger workers and those more exposed to potentially traumatic experiences, including supervisors, were at the highest risk; and, realistic caseloads and administrative support were identified by their participants as lacking. Van Hook and associates also identified younger age as a risk factor for STS. Furthermore, Hiles et al. (2015) identified parenthood, being in a significant relationship, and job tenure as potentially protective against traumatization. These findings suggest that either the job gets easier with age and with a supportive social network outside of work, or that the professionals who stayed in the profession were those equipped with the necessary resilience factors.

Individual risk factors and behaviours may also be involved in STS. Throughout the lifespan attachment styles influence personal capacities to manage challenges. Investigating the role of personality resources among diverse human services samples and including RCWs, Zerach (2013) conducted a systemic review aiming to synthesize and clarify findings related to adult attachment styles and burnout and/or compassion fatigue (STS). These concepts have been found to be highly co-related, thus it is unsurprising that the relationships identified between these constructs and attachment security were the same: higher attachment security being associated with lower levels of each and lower attachment security being associated with higher levels of each (West, 2015). Eastwood and Ecklund (2008) sampled RCWs because of their unique position in close, long term contact with youth in care and concluded that burnout (being stressed and overwhelmed) contributed to compassion fatigue (STS); compassion satisfaction (or finding value and meaning in one's work) did not correlate with compassion fatigue, while supportive relationships outside of work were protective. This study also investigated self-care, finding and engaging in a hobby, reading for pleasure, and taking pleasure trips or vacations to be significant negative correlates or identified protective factors. It may be that reading, hobbies, and trips were protective, or that all three of these experiences labelled as self-care were confounded with having fewer demands on one's time, financial resources, and a supportive network outside of work. Indeed, studies sampling child welfare workers have demonstrated STS levels were not reduced through self-care practices (Bober & Regehr, 2006; Salloum et al., 2015). Thus, self-care activities may not be protective; rather, professionals able to engage in self-care behaviours may have the material resources and self-capacities to take advantage of social support, potentially resulting from a secure attachment style.

Looking to individual risk factors such as attachment style or ACE history furthers understanding about why some individuals might be more or less impacted; however, such information is difficult to leverage at an organizational level. By widening the focus from professionals and STS to adult PTSD in general, meta-analytic findings offer more

actionable results. According to two distinct meta-analyses, the strongest predictors of PTSD include trauma severity, life stress, lack of social support, and peritraumatic psychological processes (Brewin et al., 2000; Ozer et al., 2003). These results echo findings in the research looking specifically at child welfare indicating the degree of exposure to potentially traumatic experiences, unrealistic workloads, controlling organizational leadership, and the lack of administrative support as key risk factors (Cornille & Meyers, 1999; Hiles Howard et al., 2015; Sprang et al., 2011; Van Hook & Rothenberg, 2009). Given the importance of the organizational context, organizational strategies recommended to mitigate STS and workplace practices that influence peritraumatic psychological processes related to on-the-job trauma exposure will now be addressed.

Promising organizational strategies to mitigate STS in child welfare

Researchers investigating STS among child welfare professionals, and RCWs specifically, have offered implications related to the promotion of well-being that are well aligned with the meta-analytic findings related to PTSD risk and protective factors. In this literature, trauma severity and life stress appear to be correlated as do social support and strategies to ameliorate peritraumatic psychological processes.

Trauma severity and life stress. Research implications suggestive of strategies for the mitigation of trauma severity and life stress largely focused on the organizational role in providing environments and workplace structures responsive to employee needs. Following an analysis of thirteen organizations worldwide working with survivors of extreme trauma, Pross and Schweizer concluded that deficiencies in organizational structure were associated with high employee stress and conflict while organizations with clear organizational structures showed lower stress levels, less conflict, and lower post-traumatic symptoms (2010). Pross and Schweitzer described chaotic, unstructured, and unpredictable workplace environments as a parallel of "the total absence of structure that exists when a victim is at a perpetrator's disposal" (Pross & Schweitzer, 2010, p. 102). Through this lens, the lack of conditions necessary towards the well-being of professionals can be considered akin to abuse.

Eastwood and Ecklund (2008) studied STS among 57 RCWs concluding that they needed time to take short breaks away from the children in their care, without threatening adequate staffing ratios. In their study of child protection social workers, Dagan et al. (2016) called for caseloads to be balanced and mitigated and for the establishments of clear role definitions and boundaries. Dombo and Blome (2016) interviewed directors of state child welfare organizations with local knowledge about organizational responses to STS. These participants championed the importance of enabling work-life balance amongst staff, with one state director sharing that they were moving towards becoming a trauma-informed organization (see the following section). All participants in this study acknowledged organizational structures, bureaucracy, and the political climates of their jurisdictions resulting in barriers to addressing STS, including having inadequate time, money, and staffing.

Social support and ameliorating peritraumatic psychological processes. McNamara (2010) interviewed ten staff members and two supervisors in an Australian residential youth justice facility and concluded there was a need for collaborative managerial approaches, incorporating a high degree of trust, reflection, systemic thinking, flexibility, and responsiveness. Hiles Howard et al. (2015) described a need for authoritative leadership rather than authoritarian leadership. Trust among the staff also emerged as an important aspect of social support (Dombo & Blome, 2016; McNamara, 2010). Overall, a non-judgmental and caring workplace culture, where administrators were aware of the potential impacts of trauma exposure and staff were made to feel valuable to the organization, were considered optimal to promote professional well-being (Dombo & Blome, 2016). A focus on organizational anticipation of the potential impacts of STS was cited in several studies and linked to preventive strategies: ensuring adequate vacations or leaves to allow time and resources for developing outside interests and social support systems (Eastwood & Ecklund, 2008); creating organizational conditions to help workers process the negative impact of daily job stress–specifically exposure to details of child abuse and neglect (McNamara, 2010); taking steps to ensure that younger and single employees were provided with training and coping tools early in their career when they may need it most (Hiles Howard et al., 2015); raising awareness of risks associated with PTSD within the organization (Dagan et al., 2016); providing adequate training to all staff (Dombo & Blome, 2016; Eastwood & Ecklund, 2008); encouraging and providing resources to process personal trauma, including physical and psychological diagnostic and therapeutic services (Dagan et al., 2016; Dombo & Blome, 2016; Eastwood & Ecklund, 2008).

The need for supervision also emerged as an important implication for RCWs. Eastwood and Ecklund (2008) called for time to consult with peers and obtain supervision; while McNamara (2010) argued the need for individual access to supervision, supervision groups, individual and group debriefings, and advocacy on behalf of staff by

supervisors. Bride and Jones (2006) surveyed child welfare case managers and supervisors in a southern American jurisdiction (*n* = 307), concluding supervisors who were willing to help when problems arose, provide visible, ongoing support for innovations, ideas, and assistance to enhance quality of services were valued. It was not simply the availability of supervision that was important but also that it was considered to be of quality and occurred on a regular basis (Bride & Jones, 2006; Dombo & Blome, 2016). Participants in McNamara (2010) valued supervision that nurtured, affirmed, and normalized their experiences. These findings suggest that not all supervision was desirable or effective. Indeed, there are important caveats in the discussion of what strategies should be encouraged for RCWs.

Bober and Regehr (2006) surveyed 259 professionals, including RCWs, in southern Ontario. Consistent with meta-analytic findings related to risk factors for PTSD, they also found that the degree of severe trauma exposure was related to higher STS scores. Their findings also revealed "no association between time devoted to leisure, self-care, research and development, or supervision and traumatic stress scores" (p. 7). They concluded there was no evidence to suggest that using coping strategies often recommended in the extant literature were protective against symptoms of acute distress. In light of these findings, strategies that download coping with STS onto individual professionals in the form of self-care, education, or attending supervision cannot be considered adequate. STS must be considered a routine workplace hazard and human service organizations, including child welfare, must be made responsible for workplace safety–beyond physical safety related to violence, injury, or environmental toxins. In recent years a novel paradigm of practice embedded with a philosophy and evidence-based practices specifically aimed to reduce suffering related to interpersonal trauma has emerged. Perhaps most unique is that this model of practice not only considers the well-being of those served within the child welfare system, but those who work within it, and the organization itself.

Trauma-informed care

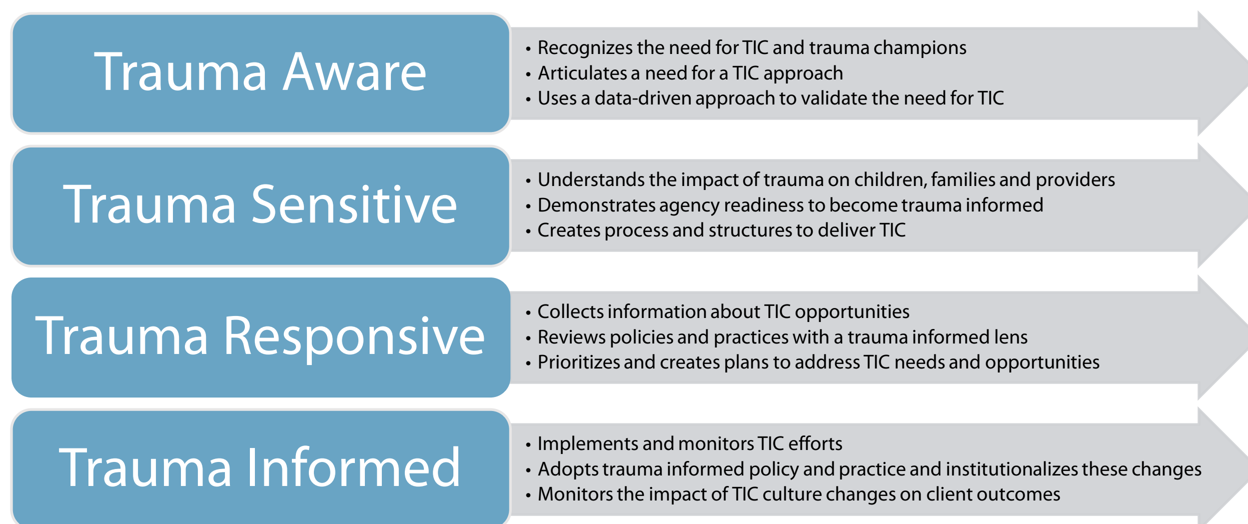
TIC is proposed as a double-pronged strategy to promote the recovery of children within the child welfare system, and to reduce harm caused by indirect trauma exposure to child-welfare professionals (Blaustein & Kinniburgh, 2018; Bloom & Farragher, 2013; Strand & Sprang, 2018). The assumptions of a trauma-informed organization are that it "realizes the widespread impact of trauma and understands potential paths for recovery; recognizes the signs and symptoms of trauma in clients, families, staff, and others involved with the system; responds by fully integrating knowledge about trauma into policies, procedures, and practices, and seeks to actively resist re-traumatization" (SAMHSA's Trauma and Justice Strategic Initiative, 2014, p. 9). This framework is used to create an organizational culture that recognizes the ubiquity of trauma in the development of altered neurodevelopment and compromised immune responses, traumatic stress symptoms, maladaptive behaviors, and impaired functioning in those with toxic levels of exposure (direct and indirect) (Felitti et al., 1998; Shonkoff et al., 2012). Professionals operating in a trauma-informed manner use this knowledge as well as data on effective treatment in a process of delivering care that minimizes trauma reminders, prevents additional harms, and promotes healing and recovery (Foa et al., 2009). This is important as the literature is replete with examples of trauma-inducing practices in child serving organizations and systems; the iatrogenic trauma of placement disruptions, high staff turnover, harsh disciplinary practices, the use of seclusion and restraints, and other coercive or intimidating behaviors (Bloom & Farragher, 2011; Mor Barak et al., 2001; SAMHSA's Trauma and Justice Strategic Initiative, 2014). A TIC model offers an alternative to these deleterious practices, and creates opportunities for healing and recovery informed by several decades of discoveries in clinical research on child traumatic stress treatment, practice generated knowledge of how to treat trauma, and lessons-learned from survivors (Cohen, 2010; Foa et al., 2009). TIC promotes and sustains the effective use of evidence-based, trauma specific treatments and practices by creating an environment that can sustain the implementation of such interventions, and a workforce that can deliver and sustain them effectively (Hummer et al., 2010).

For residential treatment centers to be trauma-informed, a workforce development and protection strategy that is in alignment with the values and principles of this approach to care is fundamental. Residential treatment centers must apply the same principles of TIC to the child welfare staff if they expect these professionals to deliver such services to children and youth. This is accomplished by creating an environment that realizes the impact of indirect trauma on the workforce, employs methods to recognize when STS is negatively affecting worker functioning, responds by enhancing worker resiliency and enhancing skill development to address distress, and resists re-traumatizing its workers by managing unnecessary threats and exposures. This approach is echoed by leading organizations and agencies that note the prevention and treatment of secondary trauma is essential for providing quality care to trauma exposed populations, and an important strategy for preventing turnover and increasing workforce retention (Cook & Newman, 2014; Kim & Kao, 2014; NCTSN Core Curriculum on Childhood Trauma Task Force, 2012; SAMHSA's Trauma

and Justice Strategic Initiative, 2014). Failure to include STS prevention and intervention strategies into any TIC initiative in a residential setting would represent a barrier to effective implementation of any evidence-based or promising practice and would ultimately undermine the success of the agency in providing the most effective services to children.

In an attempt to operationalize an organization's role in workforce development and protection around this issue, the Secondary Traumatic Stress Informed Organizational Assessment (STSI-OA) was developed (Sprang et al., 2017) based on the literature on organizational change and development (Crossan et al., 1999), and a developmental perspective on TIC (Missouri Department of Mental Health and Partners, 2014) (see Figure 1). This tool articulates organizational strategies in the action domains of resilience building activities; the promotion of worker safety; the capacity of an organization to assess and evaluate policies for addressing and preventing secondary trauma exposures in real time; organizational and leadership practices to promote and address secondary trauma; and assessment and monitoring efforts (Cook & Newman, 2014; Sprang et al., 2017). Since individuals are the primary stakeholders in an organization, the STSI-OA is most helpful if multiple reporters, representing different points in the organizational hierarchy, complete the assessment. This provides the most nuanced perspective on the organization and gives voice to the workforce. Between and within group comparisons can be conducted to detect perceptual and behavioral differences, communication gaps, and units with the highest levels of need for intervention and support. The results of the STSI-OA are a blueprint for training, and a data-driven strategy to guide organizations who are applying the principles of TIC to their workforce.

Figure 1. A model for organizational trauma-informed care



Note: Phased based approach is adopted from Missouri Department of Health and Partners (2014)

In best practice, these organizational approaches are executed in tandem with individual level actions such as self-monitoring and self-care, resilience building, the execution of practice behaviors to facilitate real-time processing of indirect trauma experiences (Miller & Sprang, 2017), and the utilization of evidence-based trauma treatment when necessary (Sprang et al., 2019). A growing body of literature documents the important role of supervisors as boundary spanners who integrate these organizational and individual approaches. The literature supports the importance of this function, specifically in the areas of task assistance, social and emotional support, and the development of healthy supervisory-worker relationships (Choi, 2011a; Mor Barak et al., 2009). Recently, the National Child Traumatic Stress Network (2018) published a document, STS Informed Competencies for Trauma-informed Supervision that articulates the nine skill domains that would reflect competent supervision to reduce STS. These competencies reflect empirical research on what makes supervision effective in a trauma-informed environment, and includes knowledge and skill building around understanding and responding to STS in oneself and others, the capacity for co-regulation and to teach self-regulatory skills, reflective practice, using a trauma lens to guide supervision and crisis response, and the appropriate use of self-disclosure. Research is needed to determine the effectiveness of this translational tool on the quality of supervision and the STS of RCWs.

Conclusion

RCWs fulfill a critical role in the security and development of children in need of residential placement. Ironically, it is through these helping relationships that RCWs can also be exposed to multiple potentially traumatic experiences. The workforce, like those it serves, is a living system that requires a standard of safety and protection to function properly. Indeed, RCWs have been shown to suffer traumatization at overwhelming rates. Recent research suggests the well-being of RCWs and the well-being of the children in their care are linked in a dynamic and reciprocal relational system. Despite all previous efforts, longstanding problems retaining staff in residential child welfare services have persisted and, in many jurisdictions, worsened over time. Child welfare appears to require a novel and system-wide response to improve outcomes for children and staff. TIC offers evidence-based, comprehensive approaches to guide child welfare practices and targeted intervention strategies to respond to the immediate needs faced by children and staff. In this way, TIC provides the foundation for reducing and addressing harms to staff, so that the promise of the approach can benefit children in residential care.

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International Journal of Child and Adolescent Resilience
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Le programme Namaste, une psychothérapie de groupe basée sur le yoga pour les jeunes ayant un vécu de traumas complexes : une série d'étude de cas

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Résumé

Introduction : Les enfants qui ont un vécu des traumas complexes sont à risque de développer de graves difficultés d'attachement, d'autorégulation et de comportement. Des études exploratoires démontrent que la pratique du yoga permet d'améliorer leur fonctionnement et diminuer leurs symptômes d'internalisation et d'externalisation.

Objectifs : Le programme Namaste, une adaptation du manuel « Yoga-Based Psychotherapy » (Beltran et al. 2014) vise l'amélioration de l'autorégulation et de la santé mentale. Cette étude a pour objectif de documenter ses effets chez les enfants qui ont vécu des traumas complexes.

Méthode : Douze séances ont été animées auprès d'enfants âgés de 6 à 13 ans suivis par un centre de protection de l'enfance. Les séances combinaient des postures de yoga, des exercices de respiration, et d'autres activités favorisant l'autorégulation et la socialisation. Le fonctionnement et les symptômes des enfants ont été mesurés avec le questionnaire BASC-3 avant et après l'intervention. Deux études de cas détaillées décrivent les impacts potentiels de cette intervention.

Résultats : Les deux études de cas démontrent des impacts positifs sur les symptômes d'internalisation et d'externalisation ainsi que l'autorégulation, mais aucun effet sur l'estime de soi et les compétences sociales.

Implications : Le programme Namaste pourrait être une intervention prometteuse pour améliorer le fonctionnement et réduire les symptômes psychologiques chez cette population. L'intégration des principes du yoga sensible aux traumas, la modalité de groupe et l'accent mis sur l'autorégulation semblent des éléments-clés. D'autres études de plus grande envergure sont nécessaires pour confirmer les impacts positifs potentiels de cette intervention.

Mots-clés : Yoga sensible au trauma; Trauma complexe; Psychothérapie de groupe.

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Introduction

Les enfants et adolescents qui reçoivent des services en protection de la jeunesse sont à risque de présenter des difficultés psychologiques en lien avec leur vécu familial, souvent traumatique (p. ex., expériences d'abus physique, psychologique ou sexuel, exposition à de la violence familiale, séparation des parents, présence d'un trouble mental chez un membre de la famille). Le terme trauma complexe englobe le fait d'avoir vécu des traumas interpersonnels, chroniques et répétés, ainsi que les séquelles complexes et durables qui leur sont associées (Milot et al., 2018, p. 10). Les séquelles incluent notamment des symptômes de trouble de stress post-traumatique (TSPT), ainsi que des déficits dans plusieurs sphères du développement (Godbout et al., 2018). Par exemple, les jeunes peuvent avoir des difficultés relationnelles, identitaires, d'attachement, de régulation des émotions et de mentalisation, des problèmes cognitifs et d'apprentissage ou des comportements dysfonctionnels (Godbout et al., 2018). Les séquelles comprennent aussi un ensemble de symptômes psychologiques d'externalisation (p. ex., crise agressive, opposition, agitation et provocation) et d'internalisation (p. ex., dépression, anxiété, retrait social et somatisation). Ces problèmes peuvent perdurer à l'âge adulte (Cloitre et al., 2009; van der Kolk, 2014) et requièrent souvent des soins psychologiques spécialisés. Parfois, un placement en dehors du milieu familial (p. ex., centre de réadaptation, foyer de groupe ou famille d'accueil) est l'option qui répond le mieux aux besoins de sécurité et de développement de l'enfant. Au Québec, Collin-Vézina et ses collaborateurs (2011) ont rapporté que 83 % des jeunes hébergés en centre de réadaptation avaient vécu au moins une forme de maltraitance et que 76 % d'entre eux avaient été victimes de formes multiples de mauvais traitements. La prévalence extrêmement élevée chez cette clientèle des traumatismes relationnels, et des séquelles associées, nécessite l'implantation d'interventions sensibles aux traumas. Les approches thérapeutiques qui visent à intégrer le corps et l'esprit (« mind-body interventions ») sont de plus en plus utilisées dans le traitement des traumas complexes (Mayer, 2019). Une de ces approches, le yoga sensible aux traumas, est une avenue intéressante pour rejoindre cette clientèle puisque la régulation des émotions constitue une pierre angulaire du traitement (Blaustein & Kinniburgh, 2018; Spinazzola et al., 2001). L'objectif de cette étude est de décrire les impacts potentiels de la participation au Programme Namaste, une psychothérapie basée sur le yoga, chez des enfants ayant un vécu de traumatismes complexes.

Le yoga sensible aux traumas

La pratique du yoga sensible aux traumas invite, par le mouvement et la respiration, à observer les sensations du corps et à passer à l'action pour améliorer son bien-être (p. ex., maintenir la posture, l'approfondir ou la cesser; Emerson et al. 2009). Il peut s'agir de l'amorce d'un processus thérapeutique important.

Plusieurs avantages rendent l'approche de la psychothérapie par le yoga intéressante, notamment le risque minimal encouru, la bonne acceptabilité sociale, la facilité d'adaptation à diverses populations et contextes ainsi que les avantages sur la santé associés à la pratique d'une activité physique (Sciarrino et al., 2017). Il semble aussi que le rapport coût-bénéfice soit avantageux (Macy et al., 2018). De plus, il a été démontré que le yoga a une variété d'effets thérapeutiques sur la santé psychologique et cognitive, notamment l'amélioration de la régulation émotionnelle (Macy et al., 2018), qui est fréquemment affectée chez les victimes de traumatismes complexes.

Des lignes directrices ont été développées pour encadrer la pratique du yoga auprès de personnes ayant vécu des traumas (Emerson et al., 2009). Premièrement, l'environnement physique doit favoriser un sentiment de confiance et de sécurité. Par exemple, l'absence de fenêtres par lesquelles on pourrait observer l'intérieur, l'insonorisation et l'absence de miroirs peuvent favoriser la relaxation. Deuxièmement, la manière d'animer les postures de yoga doit être adaptée; les consignes sont formulées comme des suggestions et l'accent est mis sur le respect des désirs et des limites de chacun. Aussi, les participants sont encouragés à être à l'écoute de leur corps et de leurs émotions; si une posture est inconfortable pour une personne, peu importe la raison, elle doit se respecter. La personne peut alors modifier la posture, sa durée ou encore rester debout ou assise pendant un certain temps. Troisièmement, les qualités des intervenants qui animent les séances sont importantes; une bonne connaissance des impacts des traumas sur le développement et des réactions physiologiques associées est essentielle. En plus d'une bonne connaissance du yoga, une attitude d'ouverture et de non-jugement favorise le bon déroulement. Une attention particulière au langage utilisé lors de l'animation est de mise pour éviter de déclencher des réactions post-traumatiques. Le vocabulaire pour décrire les postures est simplifié afin de respecter les limites langagières parfois présentes. Quatrièmement, ces auteurs proposent d'éviter les contacts physiques; les corrections verbales étant plus appropriées. L'un des mécanismes d'action proposés pour expliquer l'efficacité du yoga chez les victimes de traumatismes est la régulation du système nerveux autonome. Ce système se compose de deux voies qui travaillent de façon antagoniste. La voie sympathique

prépare le corps à avoir une réponse adaptée face à un stresseur (van der Kolk, 2014). La voie parasympathique assure la conservation de l'énergie en ralentissant les fonctions de l'organisme (Bear et al., 2007). Chez les enfants ayant vécu des traumas, le système sympathique devient programmé en mode survie de façon permanente. Ainsi, il s'active, et ce, même dans un contexte sécuritaire (Spinazzola et al., 2011). Le yoga permet d'améliorer la résilience au stress en favorisant l'équilibre entre la suractivation du système nerveux sympathique et la réponse du système nerveux parasympathique, nécessaire à l'apaisement (Ross & Thomas, 2010).

L'efficacité des interventions utilisant le yoga chez les victimes de traumas

Les résultats d'une méta-analyse conduite sur 24 études contrôlées randomisées indiquent que les interventions basées sur la pleine conscience, tel le yoga, sont efficaces dans la réduction des symptômes liés aux traumatismes psychologiques chez les adultes (Taylor et al., 2020). Les interventions durant plus de huit semaines seraient particulièrement efficaces (Taylor et al., 2020). Dans une recension exhaustive, Macy et ses collaborateurs (2018) ont analysé 13 revues de la littérature qui démontrent que la pratique du yoga est efficace chez l'adulte en tant que traitement des impacts liés à divers types de traumatismes (p. ex., le TSPT, l'anxiété et la dépression). Une autre recension de la littérature portant spécifiquement sur l'efficacité des interventions de type yoga sensible aux traumas chez les femmes ayant vécu un trauma interpersonnel et qui présentent un TSPT corrobore ces conclusions, particulièrement chez une population qui ne répond pas aux thérapies cognitives-comportementales traditionnelles (Nolan, 2016). Une étude récente ayant utilisé un devis non randomisé chez neuf femmes ayant un TSPT chronique et résistant au traitement supporte également l'efficacité de ce type d'intervention à réduire significativement les symptômes liés au TSPT et dissociatifs, davantage que des traitements similaires administrés sur une plus courte période (Price et al., 2017). Cette étude précise par ailleurs que la durée de l'intervention et l'ajout d'une pratique à la maison ont un impact positif. Le nombre d'études portant sur les effets du yoga sur la santé mentale est en croissance et leurs résultats sont prometteurs. Actuellement, les appuis empiriques sont insuffisants pour recommander le yoga sensible aux traumas comme traitement principal des traumas complexes, mais sa pratique donnerait des résultats intéressants en combinaison avec d'autres thérapies plus traditionnelles (ex., psychothérapie, pharmacothérapie) (Macy et al., 2018). Aucune recension de la littérature ne s'est encore spécifiquement intéressée à cette modalité chez les jeunes enfants et adolescents victimes de traumas complexes.

L'efficacité thérapeutique du yoga en complément avec d'autres approches a cependant été démontrée chez les enfants et adolescents affectés par d'autres problématiques physiques (p. ex., difficultés cardiorespiratoires) et mentales (p. ex., difficultés attentionnelles et anxiété (Kaley-Isley et al., 2010; Galantino et al., 2008). L'étude d'Hariprasad et ses collaborateurs (2013) corrobore que l'enseignement du yoga chez les enfants pourrait avoir un impact positif sur les symptômes qui caractérisent le trouble déficitaire de l'attention avec hyperactivité (TDAH). La pratique du yoga sensible aux traumas a aussi été étudiée chez de jeunes adolescents placés hors de leur milieu familial et présentant des difficultés comportementales et émotionnelles sévères (Spinazzola et al., 2011). Les deux études de cas décrites par ces auteurs (c.-à-d., une fille âgée de 16 ans et un garçon âgé de 17 ans) font état de changements positifs chez les participants, dont l'amélioration des interactions sociales, la concentration et le contrôle des impulsions (Spinazzola et al., 2011).

Récemment, Beltran et ses collaborateurs (2014, 2016) ont développé un traitement psychologique de groupe basé sur le yoga. Ils ont examiné les effets d'une intervention de 14 semaines basée sur le yoga et la pleine conscience chez 10 garçons de 4e et 5e année du primaire ayant été exposés à des expériences traumatiques en milieu urbain (Beltran et al., 2016). Cette intervention visait à améliorer le fonctionnement comportemental et émotionnel de ces garçons en utilisant les éléments de base du yoga afin de promouvoir la réflexion sur soi et l'autorégulation des fonctions affectives, somatiques, comportementales et cognitives, tout en offrant des opportunités d'apprentissages relationnels. Beltran et ses collègues (2016) ont observé une diminution significative des pensées intrusives, de l'activation émotionnelle, et de la rumination à la suite de l'intervention. Toutefois, la généralisation des résultats est limitée en raison de la taille de l'échantillon et d'autres études similaires sont nécessaires pour mieux comprendre les effets de la psychothérapie basée sur le yoga chez les jeunes victimes de traumas.

Objectifs du programme Namaste

Le programme Namaste a été traduit et adapté par deux psychologues d'un centre de protection de l'enfance au Québec (Canada) à partir du programme « Yoga based psychotherapy: a group protocol for children » développé par Beltran et ses collaborateurs (2014, 2016) avec l'autorisation des auteurs. Le programme Namaste s'adresse aux

enfants âgés de 6 à 12 ans ayant un vécu de traumatismes complexes et vise l'amélioration du fonctionnement psychologique par le biais de ces concepts clés :

- *La sécurité et les frontières personnelles* : enseigner à l'enfant l'importance de respecter les limites des autres et de faire respecter les siennes, ainsi qu'à identifier les comportements et situations sécuritaires;
- *La conscience de soi* : développer la capacité à prendre conscience de son corps et de ses sensations par le yoga et, éventuellement, à prendre conscience de ses pensées et de ses émotions;
- *L'autoapaisement* : enseigner des techniques de respiration et de mouvement qui peuvent aider à se calmer;
- *L'autorégulation* : augmenter la durée de l'attention et les comportements dirigés vers un but et diminuer les crises;
- *Les compétences* : augmenter les habiletés de socialisation, de communication des besoins et des émotions, et la capacité à gérer le stress;
- *L'estime de soi* : développer un regard sur soi positif à travers des accomplissements et la notion d'identité propre.

Grâce à ces cibles d'intervention, il est attendu que la participation au programme influence positivement la santé mentale et le fonctionnement des jeunes participants. Cette étude pilote avait pour objectif d'explorer l'impact de la participation au programme Namaste sur le fonctionnement, les symptômes d'internalisation et d'externalisation, ainsi que l'autorégulation chez des enfants suivis par les services de protection de l'enfance.

Méthode

Participants

Le programme s'adressait aux jeunes hébergés dans les foyers de groupe d'un centre de protection de l'enfance qui désiraient apprendre à mieux gérer leurs émotions par le mouvement. Les éducateurs ont référé les jeunes intéressés. Les jeunes présentant une problématique suicidaire aiguë, alimentaire, de violence ou de sommeil ou encore toute autre condition de santé jugée contrindiquée n'ont pas pu participer au groupe. Deux groupes de sept jeunes, âgés de 6 à 13 ans ont participé au programme Namaste. Ces garçons ($n = 11$) et ces filles ($n = 3$) présentaient des difficultés de régulation des émotions selon leurs intervenants. Des évaluations pré et post-intervention ont été effectuées avec le deuxième groupe ($n = 7$; quatre garçons et trois filles). De ces sept participants, un garçon n'a pas pu compléter le programme en raison d'un changement de milieu de vie et une fille n'a assisté qu'à huit séances sur 12. Parmi les cinq autres jeunes, les parents de deux d'entre eux ont pu être joints et ont consenti à ce que les données cliniques recueillies dans le cadre de ce service soient utilisées à des fins de recherche. Les jeunes ont aussi donné leur assentiment. Ce projet de recherche a été approuvé par le comité d'éthique à la recherche du centre de protection de l'enfance (2020-1917). Considérant le nombre limité de participants ($n = 2$), l'étude de cas a été privilégiée comme méthodologie de recherche à l'instar de Spinazzola et ses collaborateurs (2011).

L'intervention

Le manuel original (Beltran et al., 2014, 2016) comprenait 14 séances de 90 minutes. La première et la 14e séance s'adressaient aux parents des enfants participants et n'ont pas été incluses dans ce projet puisque les jeunes participants étaient hébergés en dehors de leur milieu familial. Les 12 autres séances ont été traduites et adaptées. Les séances incluaient toujours une séance de yoga (20 à 40 min), une activité psychoéducative (15 à 25 min), des jeux favorisant l'intégration des cibles d'intervention (15 à 30 min) et du temps consacré aux routines du groupe (p. ex., accueil, collations, auto-évaluation, rangement; environ 15 min). Le Tableau 1 présente les thèmes spécifiques de chaque séance. Les séances étaient animées par deux psychologues formées pour travailler avec les enfants ayant vécu des traumas complexes, dont l'une est aussi professeure de yoga.

Tableau 1. Thèmes des 12 séances du programme Namaste

Séances	Thèmes
1	Séance d'accueil et d'introduction au yoga
2	Conscience du corps
3	Focus sur la respiration
4	Introduction à la relaxation
5	Conscience de soi
6	Identification des émotions
7	Prendre soin de soi et sentiment de sécurité : frontières et espace personnel
8	Conscience des autres
9	Travail en équipe
10	Leadership
11	Consolidation de la relaxation et des stratégies d'autorégulation
12	Grande fête finale du groupe

Outils d'évaluation

Le questionnaire Système d'évaluation du comportement de l'enfant, version pour francophones du Canada (BASC-3; Reynolds & Kamphaus, 2015) a été utilisé pour mesurer le fonctionnement des jeunes et leur symptomatologie. Ce questionnaire est un système multidimensionnel qui évalue les différentes facettes du fonctionnement des jeunes âgés de 2 à 25 ans (Reynolds & Kamphaus, 2015). Il permet d'évaluer les forces et les déficits en mesurant des comportements adaptés et dysfonctionnels. La validité interne (alpha de Cronbach variant entre ,82 et ,96 selon les échelles) et la fiabilité (coefficient de fidélité variant entre ,78 et ,89 selon les échelles) de cet outil sont jugées excellentes (Reynolds & Kamphaus, 2016). Dans cette étude, la version autorapportée pour les jeunes âgés de 8 ans et plus ainsi que la version pour les parents, remplie par l'éducateur qui connaissait le mieux le jeune, ont été utilisées.

Le questionnaire a été rempli au foyer de groupe juste avant le début de l'intervention (pré) et après les 12 séances (post). Les jeunes ont été accompagnés par les éducateurs selon leur niveau de lecture et de compréhension. Des changements étaient attendus sur plusieurs échelles du BASC-3 en lien avec les concepts clés ciblés par l'intervention. Les échelles *Indice de symptômes comportementaux*, *Problèmes d'externalisation, Problèmes d'internalisation, Résilience* et *Habiletés adaptatives*, ont été utilisées pour évaluer le fonctionnement général et la santé mentale. Les échelles *Contrôle de la colère, Maîtrise de soi émotionnelle* et *Fonctions exécutives* ont été utilisées pour mesurer l'autorégulation et, indirectement, la conscience de soi et l'autoapaisement qui y sont étroitement liées. Les échelles *Habiletés sociales, Communication fonctionnelle* et *Relations interpersonnelles* ont été utilisées pour évaluer la sécurité et les frontières personnelles ainsi que les compétences sociales. Enfin, l'échelle *Estime de soi* a été utilisée pour évaluer le concept du même nom. Les scores bruts ont été transformés en score t ($M = 50$, $ÉT = 10$), permettant une comparaison avec un large échantillon selon le genre et l'âge des participants. Les scores se situant entre 40 et 60 sont considérés comme dans la norme; les scores entre 60 et 70 (pour les comportements dysfonctionnels) ou encore entre 40 et 30 (pour les comportements adaptatifs) se situent dans la zone à risque, et peuvent indiquer la présence d'une problématique. Les scores au-dessus de 70 et en dessous de 30 sont considérés comme cliniquement significatifs.

Par ailleurs, au terme des 12 séances, les éducateurs des jeunes participants ont été invités à transmettre informellement leurs commentaires et appréciations sur l'intervention (p. ex., durée, activités proposées, intérêt des jeunes, pratiques à la maison, améliorations perçues au quotidien, etc.). Ces informations ont été notées au dossier psychologique des jeunes et considérées, qualitativement, dans la présente étude. Les informations suivantes ont aussi été extraites du dossier psychologique des jeunes pour documenter leur vécu avant, pendant et après l'intervention : les données sociodémographiques (âge, genre, milieu de vie), le niveau académique, les forces et difficultés principales et la présence (ou l'absence) aux différentes séances. L'histoire de vie et les diagnostics ont été extraits des rapports d'évaluation disponibles.

Analyses

Les notes de suivi des séances de psychothérapie des deux études de cas ont été utilisées pour décrire qualitativement les impacts de l'intervention sur la santé mentale et le fonctionnement des jeunes participants. La correction et l'interprétation des résultats au BASC-3 ont été faites à l'aide du logiciel d'analyse des résultats sur la plateforme Q-Global de Pearson. L'appréciation des résultats se base sur l'inspection graphique, le changement de catégorie (zone clinique, à risque ou normale), ainsi que le sens du changement (amélioration vs dégradation). Les études de cas d'Annie et de Jessy sont présentées selon une approche clinique et individualisée. Leur nom, ainsi que certains détails de leur vie ont été modifiés pour préserver leur anonymat, mais les résultats présentés sont réels.

Résultats

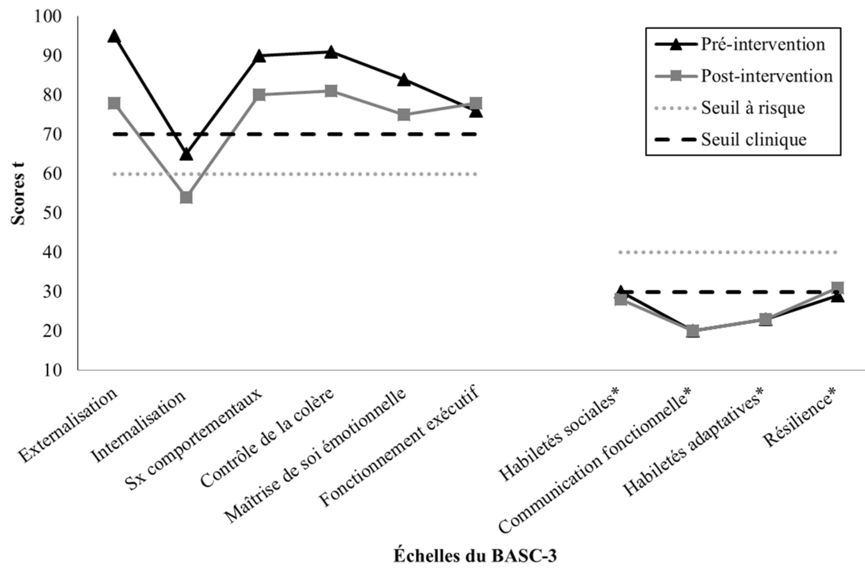
Annie

Annie est une jeune âgée de 12 ans au moment de participer au programme Namaste. Elle cumule un vécu traumatique de négligence, de maltraitance et de ruptures de lien avec ses parents, sa fratrie et d'autres personnes significatives. Elle présente des difficultés d'attachement, de santé mentale et de comportements au long cours. Annie a vécu ses quatre premières années avec sa mère, son père et une demi-sœur. Son milieu familial était extrêmement maltraitant et négligent et Annie a été retirée de ce milieu lorsque sa demi-sœur a dénoncé les abus sexuels dont elle avait été victime. Il est possible qu'Annie ait aussi été abusée, ou encore, été témoin des abus sexuels et de la violence subie par sa demi-sœur. La mère d'Annie a été violentée psychologiquement et physiquement en sa présence. Annie a été retirée d'urgence de son milieu familial et d'abord placée en famille d'accueil, puis hospitalisée en pédopsychiatrie pour une évaluation. Elle a reçu à l'âge de 5 ans plusieurs diagnostics de trouble de l'attachement, trouble déficitaire de l'attention avec hyperactivité, trouble du langage et trouble de l'humeur non spécifié. Elle a ensuite séjourné dans deux foyers de groupe dans lesquels les éducateurs utilisent une approche sensible aux traumas. Au moment de sa participation au programme, elle fréquentait une école spécialisée pour les enfants qui présentent une psychopathologie sévère. Sur le plan intellectuel, Annie se situe au niveau de la limite de la déficience intellectuelle. Elle bénéficiait aussi d'un suivi psychologique individuel en plus de sa participation au programme. Elle a participé avec entrain à 11 des 12 séances du programme Namaste et elle s'impliquait bien dans toutes les activités proposées. Annie avait de la difficulté à rester concentrée sur la tâche, mais cela ne nuisait pas au déroulement des séances. Elle acceptait et comprenait bien les consignes et donnait souvent des idées très créatives. Les résultats pré-intervention d'Annie au questionnaire BASC-3 sont présentés dans les Figures 1 et 2. Ses résultats pré-intervention témoignent de grandes difficultés dans la majorité des sphères évaluées.

Résultats post-intervention rapportés par l'éducateur. Les résultats rapportés par l'éducateur d'Annie indiquent une meilleure adaptation sur plusieurs échelles entre les deux temps de mesure (pré et post-intervention). Bien que la plupart de ses scores restent dans la zone clinique, elle semble s'être améliorée sur l'un des concepts centraux du programme : l'autorégulation (évalué par les échelles *Contrôle de la colère* et *Maitrise de soi émotionnelle*). Toutefois, il ne semble pas y avoir de changement sur l'échelle évaluant le *Fonctionnement exécutif*, aussi lié à l'autorégulation. Ensuite, il semble y avoir une amélioration sur les échelles évaluant les *Problèmes d'externalisation et d'internalisation*, suggérant des effets positifs du programme sur sa santé mentale. Par contre, il ne semble pas y avoir de progrès aux échelles mesurant les autres concepts ciblés par le programme, soit les compétences sociales et les facteurs de protection mesurés par les échelles *Habiletés sociales, Communication fonctionnelle, Habiletés adaptatives* et *Résilience.*

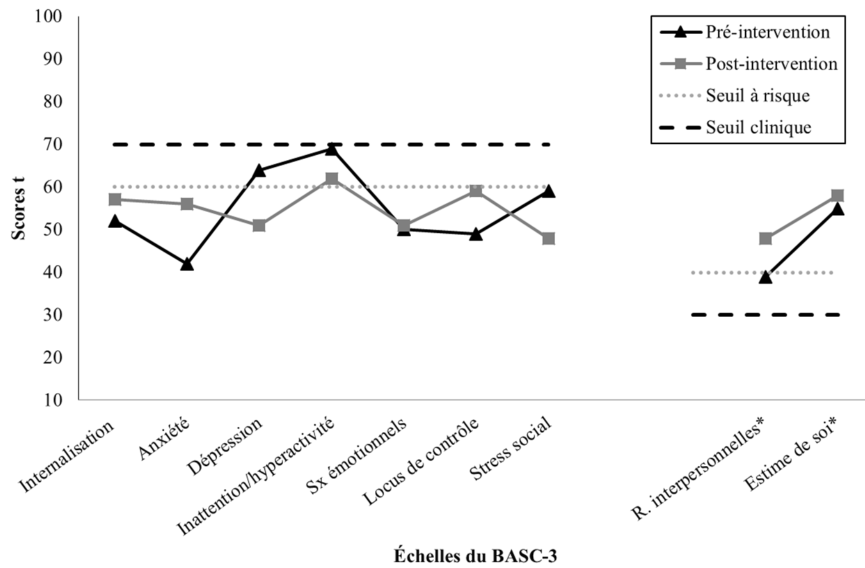
Résultats post-intervention autorapportés. Globalement, il semble qu'Annie a rapporté moins de difficultés personnelles que son éducateur en percevait et qu'elle se considérait souvent comme similaire à la moyenne des filles du même âge. Sur le plan du fonctionnement général et des symptômes d'internalisation et d'externalisation, les résultats autorapportés indiquent qu'Annie a perçu une diminution de ses difficultés sur le plan des symptômes dépressifs. De plus, pour le concept des compétences sociales, elle a perçu une amélioration de ses relations interpersonnelles. Ses résultats aux autres échelles ont varié à la suite du programme, allant parfois dans le sens d'une augmentation des difficultés, tout en restant à l'intérieur de la même zone et, le plus souvent, se situaient sous le seuil à risque. Ces variations ne sont donc pas considérées comme des changements d'une importance clinique.

Figure 1. Résultats d'Annie aux échelles du questionnaire BASC-3 tel que rapportés par son éducateur



Note. Les scores des échelles identifiées avec un astérisque sont renversés

Figure 2. Résultats autorapportés par Annie aux échelles du questionnaire BASC-3



Note. Les scores des échelles identifiées avec un astérisque sont renversés

Jessy

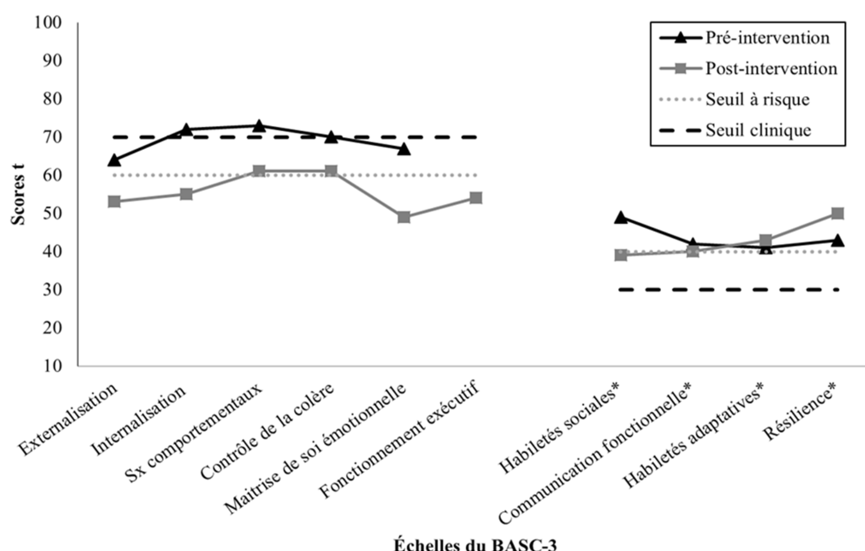
Jessy est un garçon âgé de 12 ans au moment de sa participation au programme Namaste. Il a aussi vécu de nombreux changements de milieux de vie, de la négligence, des abus physiques et de mauvais traitements psychologiques au cours de son enfance. Jessy a été hébergé dans deux foyers de groupes depuis l'âge de 6 ans et il a connu deux familles d'accueil et des retours dans son milieu familial avant cela. Les deux parents de Jessy ont connu des difficultés de santé mentale, de consommation et de violence. Malgré ce vécu, Jessy est un garçon vif, agréable et capable d'entrer en relation avec les adultes et ses pairs. Il fréquente une classe spécialisée pour les jeunes en difficultés

de comportement, mais apprendrait au rythme attendu. Son dossier fait état des difficultés suivantes : trouble de l'opposition avec provocation, éléments anxieux et difficultés d'attachement. Sur le plan intellectuel, il se situerait dans la moyenne faible. Jessy était au départ réticent à participer au programme Namaste, mais grâce à l'accompagnement de son éducateur, il a rapidement pris goût aux activités proposées. Il a participé à 11 séances sur 12. Il était souvent un leader positif, quoiqu'il fût aussi agité et que son comportement dût parfois être recadré. À la fin du programme, il disait ne pas voir de changement chez lui et ne jamais se pratiquer au foyer, mais son entourage l'aurait observé faire discrètement certaines respirations et postures apprises dans le groupe lors de moments de stress. Les résultats pré et post-intervention de Jessy au questionnaire BASC-3 sont présentés dans les Figures 3 et 4. Avant le programme, Jessy présentait des difficultés sur l'ensemble des échelles mesurant des comportements dysfonctionnels, mais avait aussi plusieurs facteurs de protection.

Résultats post-intervention rapportés par l'éducateur. Les résultats de Jessy, tels que rapportés par son éducateur, indiquent une amélioration sur plusieurs échelles avec des scores passant de la zone clinique à la zone à risque, ou de la zone à risque à la zone normale. En ce qui concerne le fonctionnement général, il semble y avoir eu une diminution des scores aux échelles évaluant les *Problèmes d'externalisation et d'internalisation* ainsi que les *Symptômes comportementaux* entre les deux temps de mesure. De plus, en ce qui a trait au concept d'autorégulation, l'éducateur a également observé une diminution des problématiques à l'échelle *Maîtrise de soi émotionnelle* et, dans une moindre mesure, à l'échelle *Contrôle de la colère*. Les facteurs de protection, comme la *Résilience* et les *Habiletés adaptatives*, se situaient dans la zone normale aux deux temps de mesures. Cependant, on observe une légère baisse des *Habiletés sociales* qui se retrouvaient dans la zone à risque après le programme. Le résultat à l'échelle *Fonctionnement exécutif* n'était pas valide dans la version pré-intervention en raison d'un trop grand nombre d'items non répondus.

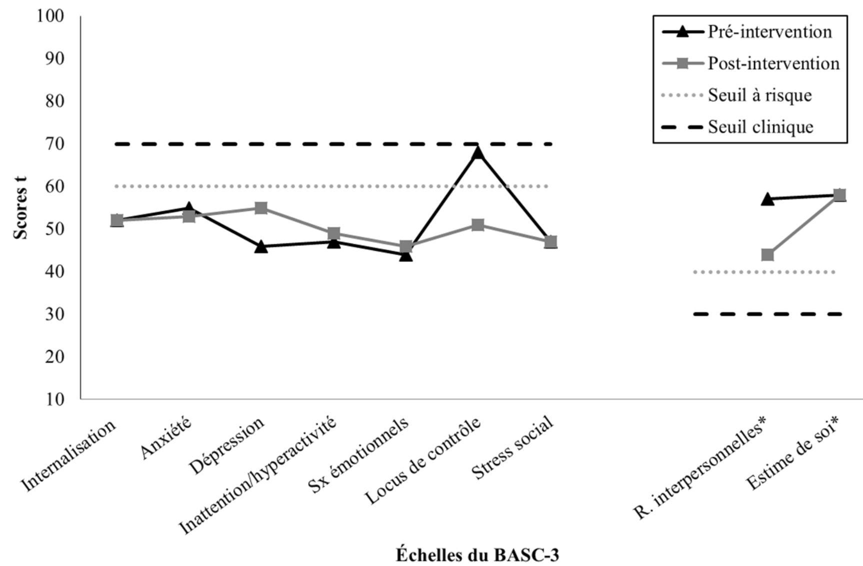
Résultats post-intervention autorapportés. Tout comme Annie, Jessy s'attribuait moins de difficultés que son éducateur n'en percevait et presque toutes les échelles se situaient dans la zone normale avant sa participation au programme. À la suite de l'intervention Namaste, les résultats autorapportés de Jessy sont demeurés stables, à l'exception du *Locus de contrôle* qui mesure la perception de contrôle sur sa vie, qui se serait amélioré.

Figure 3. Résultats de Jessy aux échelles du questionnaire BASC-3 tel que rapportés par son éducateur



Note. Les scores des échelles identifiées avec un astérisque sont renversés

Figure 4. Résultats autorapportés par Jessy aux échelles du questionnaire BASC-3



Note. Les scores des échelles identifiées avec un astérisque sont renversés

Discussion

Globalement, les résultats de cette étude pilote sont modestes, mais prometteurs. Les résultats indiquent que pendant la période où ils ont participé au programme Namaste, les deux jeunes étudiés ont connu des améliorations sur plusieurs aspects de leur fonctionnement psychologique. Il est possible que la pratique du yoga et les autres activités de l'intervention aient contribué à construire leurs capacités d'autorégulation et à développer des compétences telles que l'autoapaisement et la conscience corporelle dans un cadre sécurisant. Ce programme d'intervention est en effet cohérent avec les recommandations de traitement pour les jeunes ayant un vécu de traumas complexes et qui ont développé des difficultés émotionnelles et comportementales (Cook et al., 2005; Blaustein & Kinniburgh, 2018). Toutefois, des études plus rigoureuses sur le plan méthodologique s'avèrent nécessaires pour confirmer cette hypothèse.

La négligence, la violence et les ruptures de lien peuvent potentiellement nuire au développement d'un lien positif avec son corps, soi-même et les autres. La participation au programme Namaste avait comme objectif de favoriser chez les jeunes un contact plus sain avec leur monde interne, leurs sensations physiques et leurs émotions, notamment par le biais d'une meilleure autorégulation.

L'autorégulation est un concept large regroupant de nombreuses habiletés utiles dans la vie quotidienne. Les deux jeunes participants ont connu une amélioration de leurs capacités d'autorégulation et une réduction de leurs symptômes d'externalisation et d'internalisation. Des études antérieures sur les interventions basées sur le yoga chez les enfants ou adolescents vont dans le même sens et rapportent des améliorations de l'autorégulation (Butzer et al., 2014; Hariprasad et al., 2013) ou d'autres bénéfices, tels que la réduction de l'activation émotionnelle (Beltran, et al. 2016). Plusieurs écrits ont fait état du potentiel thérapeutique du yoga chez les adultes (Sciarrino et al., 2017), mais peu d'études s'étaient intéressées aux effets de la psychothérapie basée sur le yoga sensible aux traumas sur la santé mentale des enfants et adolescents. Les études de cas rapportées par Spinazzola et ses collaborateurs (2011) illustraient fort bien les impacts cliniques chez des adolescents au vécu similaire, mais l'absence de mesures avant et après l'intervention limitait la portée de leurs conclusions. La présente étude se distingue donc et apporte un premier éclairage sur les effets encore peu documentés de l'utilisation de ce type d'intervention chez une population d'enfants aux multiples problématiques.

Cependant, dans la présente étude, peu d'améliorations ont été observées au niveau des compétences sociales et de l'estime de soi. Ce résultat peut possiblement être expliqué par l'ampleur des difficultés initiales de ces deux jeunes. Un programme de 12 semaines n'est peut-être pas suffisant pour observer des changements sur ces

construits. Effectivement, la sévérité de la symptomatologie chez les jeunes ayant un vécu de traumas complexes demande souvent un traitement de plus longue durée (Lanktree et al., 2012). Par ailleurs, les éléments liés au soutien des pairs et à l'amélioration des compétences sociales du programme pourraient être bonifiés. Par exemple, Spinazzola et collaborateurs (2011) ont proposé des configurations en quatuor ou en triade pour un meilleur ajustement aux réactions des jeunes et éviter l'attrition.

Cette étude comporte certaines limites qui doivent être soulignées et qui mettent en lumière des pistes de recherche future. D'abord, l'absence d'un groupe contrôle et d'une répartition aléatoire des participants ne permet pas d'attribuer directement les effets positifs observés au programme. De plus, le nombre de cas analysés limite évidemment la généralisation des résultats. Néanmoins, la méthode de la série d'études de cas a permis une analyse détaillée du profil des jeunes et l'illustration des effets spécifiques à chaque individu. Il s'agit d'une méthode utile à la compréhension des impacts d'une telle intervention qui a fait l'objet de peu d'études empiriques. La disponibilité de seulement deux temps de mesure est aussi une limite importante de cette étude. L'ajout d'un ou plusieurs temps de mesure avant l'intervention permettrait d'obtenir un niveau de base pour chaque participant et ainsi mieux comparer le seul effet du passage du temps et celui des services déjà en place avec l'effet du programme Namaste. De plus, il est impossible de savoir si les effets positifs observés se sont maintenus dans le temps en raison de l'absence d'un temps de mesure à une période ultérieure (p. ex., six mois ou un an plus tard). Aussi, l'étude actuelle n'évalue pas la fréquence et l'intensité de la pratique du yoga à la maison. Des moyens pour encourager la pratique à la maison pourraient même bonifier le programme et aider les jeunes à intégrer et à généraliser leurs acquis.

L'équipe de Spinazzola (2011) a proposé d'évaluer l'impact de la pratique du yoga sensible aux traumas sur un ensemble de variables comportementales et cliniques telles que les symptômes liés aux traumatismes, l'autorégulation et le contrôle de l'agressivité et de l'impulsivité. Plusieurs des échelles du BASC-3 ont été sélectionnées en ce sens. Cependant, ce questionnaire a ses limites pour évaluer avec précision certains des concepts-clés du programme, tels que la conscience de soi, l'autoapaisement, la sécurité et les frontières personnelles. Puisqu'à notre connaissance un tel outil n'existe pas, il serait essentiel d'en développer un qui soit axé sur ces concepts pour une étude future sur les effets du programme Namaste.

Les répondants aux questionnaires étaient ici des éducateurs qui connaissaient bien les jeunes dans une variété de situations ainsi que les jeunes eux-mêmes. L'utilisation de l'auto-évaluation est importante dans une philosophie d'intervention qui place le jeune au centre de ses préoccupations et qui s'intéresse d'abord à son point de vue. La faible concordance entre les résultats rapportés par les jeunes et leurs éducateurs est probablement due aux difficultés de mentalisation, fréquentes et sévères, chez cette population (Fonagy & Luyten, 2009).

Conclusion

Les résultats de ces deux études de cas suggèrent que le programme Namaste peut aider les jeunes qui vivent des difficultés en lien avec leur vécu traumatique. Les observations ici rapportées indiquent plusieurs forces du programme, mais soulèvent aussi certains points à améliorer pour une version future. Des études de plus grandes envergures sont nécessaires pour mieux documenter les effets de cette pratique millénaire comme adjuvant aux autres services offerts pour aider ces jeunes à retrouver un développement plus harmonieux.

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Conflit d'intérêt

Les auteures ne déclarent aucun conflit d'intérêt.

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Trauma-informed care implementation in the child- and youth-serving sectors: A scoping review

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Abstract

Objectives: Enthusiasm for trauma-informed care (TIC) in the child-and youth-serving sectors (CYSSs) has been growing dramatically over the last decade. However, TIC implementation activity on the ground has far outpaced research and the landscape of TIC implementation scholarship is not well known. This scoping review aims to explore: 1) the nature of TIC implementation research in the CYSSs; 2) the characteristics of the change initiatives being studied; 3) the types of evidence these studies have generated; and 4) the gaps in the literature.

Methods: On August 28, 2019, the EBSCO, Scopus, Web of Science and PsycINFO databases were searched for English-language, peer-reviewed articles that mentioned "trauma-informed" and ("child" or "children" or "adolescent" or "youth") in the title, abstract or keywords. Articles selected for this review reported on TIC implementation processes in the CYSSs. Fifty-four articles published between 2004 and 2019 met the inclusion criteria and were reviewed in-depth for this scoping review.

Results: High variability was found in the characteristics of TIC implementation research and practice. However, promising preliminary evidence is beginning to show that TIC implementation can lead to a reduction in violent practices and incidents and can improve service provider knowledge, attitude, behaviour and practice (KABP). However, research shows that improvements to self-reports of KABP are often modest, not always maintained over time and not easily translated into actual changes in behaviour, practice and organizational climate due to a variety of barriers.

Conclusion: In order to address these barriers, the preliminary evidence suggests that TIC implementation requires a comprehensive approach that includes commitment from senior leadership, ongoing support, and collaboration within and between service providing organizations and systems.

Keywords: Trauma-informed care; children and youth; implementation; organizational change.

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Introduction

Violence against children and youth has many different forms. Whether it is in the form of abuse, neglect or exposure to structural violence, it can leave a lasting impact on children and youth's health and well-being. The trauma-informed care (TIC) movement has been mobilizing knowledge about the pervasive and potentially lifelong impacts these forms of adversity can have on children and youth since the early 2000s. Since then, complex trauma has emerged as a framework for understanding these types of interpersonal, chronic, and cumulative adversities, as well as the associated constellation of sequalae that can derail all domains of child development (Cloitre et al., 2009; Courtois, 2008; van der Kolk et al., 2005). In addition to promoting a greater understanding of children and youth who have faced adversity and may be experiencing complex trauma, the TIC movement has been advocating for service providers to better equip themselves to understand and respond to their needs. As a result, there is a growing recognition that conventional service systems often fail to respond appropriately to the needs of complex trauma-impacted children and youth and may also cause further harm (Bloom & Farragher, 2010, 2013; Elliot et al., 2005; Harris & Fallot, 2001; Oudshoorn, 2015). In order to meaningfully implement the principles of TIC in the various sectors that serve children, youth and their families, there is a general consensus that a major shift in organizational culture, structure, and policy is required.

Unlike trauma-specific interventions (TSIs), which include various treatment modalities such as Trauma-Focused Cognitive Behavioral Therapy (TF-CBT), TIC is much broader in its scope. It is a service delivery paradigm that aims to inform every level of operations. TIC implementation is a systems-level intervention that aims to transform the environment in which services are provided. The implementation of TSIs can be a part of a broader initiative to adopt TIC within an agency or service system. However, TSI implementation alone is not considered TIC implementation if it is not also accompanied by systems-level interventions that aim to shift the culture, structure or policy of the provider of the TSI.

While the concept of TIC is rather contested and amorphous, TIC is often defined using the parameters set out by the Substance Abuse and Mental Health Services Administration (2014), which state that a trauma-informed organization:

> realizes the widespread impact of trauma and understands potential paths for recovery; recognizes the signs and symptoms of trauma in clients, families, staff, and others involved with the system; and responds by fully integrating knowledge about trauma into policies, procedures, and practices, and seeks to actively resist re-traumatization (p. 9).

However, the TIC framework has many different interpretations and is continuously evolving. For example, researchers have developed the trauma- and violence-informed care (TVIC) framework to strengthen the understanding and response to structural violence, which refers to the harm caused by colonialism, racism, heteronormativity, poverty, ableism, etc., which is lacking in many TIC approaches (Levine et al., 2020). The TVIC framework will also support a more robust interrogation into the ways that service providers are complicit in the perpetuation of structural violence.

The core principles of TIC in child- and youth-serving sectors (CYSSs) promote a shift away from a focus on compliance and pathology towards a focus on connection, empathy and deeper understanding (Bloom & Farragher, 2010, 2013; Ford & Blaustein, 2013; Oudshoorn, 2015). For example, in residential or inpatient contexts, supporting a young person to de-escalate aggressive behaviour through empathic listening and emotion regulation practices is now considered to be safer and more therapeutic than using punitive, coercive and pharmacological approaches such as time-outs and physical and/or chemical restraints. The science is clear that strong relationships with adult caregivers are a key factor of resilience in the face of adversity and complex trauma, and the adoption of TIC is crucial for service providers to be able to foster these types of relationships with the children and youth in their care (Blaustein & Kinniburgh, 2010; Bryson et al., 2017; Ford & Blaustein, 2013). In light of this, TIC is increasingly becoming associated with best practice in a variety of service contexts, especially in CYSSs where early intervention is considered key to preventing the complex and long-term sequelae associated with early adversity. Various levels of governments in Canada, the United States, and Australia have enacted policy that commits to trauma-informed service delivery across a variety of sectors in the human service system.

However, with all these commitments to provide trauma-informed services, some have commented on the resulting emergence of a booming TIC consultation and training industry. As Birnbaum (2019) states "it would not be an exaggeration to suggest that TIC training has become a mostly unregulated growth industry, as there is little

systematic research on the content or quality of these proliferating offerings" (p. 477). Many have commented that all the work happening on the ground to operationalize TIC has far outpaced research (Hanson & Lang, 2016; Thomas et al., 2019). Indeed, the study of TIC implementation is an area of scholarship that is new but growing rapidly and the landscape of the associated research literature is not well known.

Objectives

As of yet, there exists no other comprehensive reviews of TIC implementation research across the CYSSs. A 2020 systematic review from Purtle looked at TIC implementation across all sectors of the human service system and focused on quantitative, outcome-based research. Two systematic reviews with a focus on the youth residential treatment sector exist: one with a focus on outcomes (Bailey et al., 2019), the other with a focus on process (Bryson et al., 2017). Furthermore, all existing reviews found a high level of heterogeneity in the literature, pointing to the complexity of grasping the nature of research being conducted in this field and the need for a scoping review to map out this scholarship. This scoping review bridges the silos in the CYSSs as well as in research by examining TIC implementation research of all types across all CYSSs. Importantly, it also maintains the boundary with the adult-serving sector to retain the important developmental considerations to trauma-informed service delivery with young people. The objective of this scoping review is to provide a comprehensive overview of the research about TIC implementation in the CYSSs by: 1) describing the key characteristics of TIC implementation research studies; 2) describing the key characteristics of TIC implementation initiatives in the CYSSs being studied; 3) mapping the types of evidence available about implementation outcomes and processes; and 4) identifying important gaps in the literature.

Method

A scoping review is indicated for mapping evidence in a body of literature that is heterogenous and has yet to be comprehensively reviewed (Arksey & O'Malley, 2005; Levac et al., 2010; Munn et al., 2018; Peters et al., 2015). Scoping reviews are designed to explore the extent, range, and nature of research activity, summarize key findings, and identify gaps. Methodological guidelines for scoping reviews recommend iterative study designs to allow for the refinement of inclusion and exclusion criteria as the researcher becomes more familiar with the literature and develops a better sense of the volume, breadth and nature of the scholarship (Arksey & O'Malley, 2005; Levac et al., 2010; Peters et al., 2015). This study followed the iterative six-stage scoping review framework developed by Arksey and O'Malley (2005): 1) identifying the research question; 2) identifying relevant studies; 3) selecting studies; 4) charting the data; 5) collating summarizing and reporting the results; and 6) engaging in consultation. While the study was limited by only having one reviewer complete stages 1 through 5, it was strengthened by consulting with a committee of other TIC researchers throughout the process to validate the methods and findings.

During stage 1, the following research question was identified: What is the nature of the TIC implementation research literature in the CYSSs? In addition, parameters of what TIC implementation research in the CYSSs consists of were developed, with the expectation they would be refined as the selection process progressed. Initiating stage 2, a search was conducted on August 28, 2019 of the Academic Search Complete (EBSCO), Scopus, Web of Science and PsycINFO (OVID) databases for English-language journal articles that mentioned "trauma-informed" and "child" or "adolescent" or "youth" in the title, abstract or key words. The search was not filtered for publication date. A total of 2306 records were obtained from this database search and imported into Endnote. Following the removal of duplicates, 1152 unique articles were then screened by title, abstract and full-text review in an iterative process that ultimately generated the final inclusion/exclusion criteria.

After becoming more familiar with the results of the search, the original parameters of TIC implementation research in the CYSSs were narrowed to include only the studies that reported on the results of a TIC implementation initiative. Studies that were simply evaluating to what degree organizations and systems were already operating in a trauma-informed way and studies that took baseline measures of TIC uptake or readiness for implementation were excluded. Studies focused on evaluating only the implementation of a TSI were also excluded. In regard to parameters of the CYSSs, articles were excluded if they did not explicitly mention the inclusion of child- and youth-serving professionals, organizations, or systems in their sample. Articles selected for this literature review studied at least one aspect of the change process associated with TIC implementation at all scales, including those that targeted only one department or unit of an institution, and those that aimed to make changes to entire organizations or service systems. Studies were included regardless of quality, as is indicated for scoping reviews, although some conclusions were drawn

about how to improve the quality of research in this area moving forward. Fifty-four articles met the inclusion criteria and were reviewed in-depth for this paper.

In stage 4, data were systematically abstracted and charted into an excel sheet using Garrard's Matrix Method (2017) with the following headings: author, title, year of publication, journal title, sector (e.g. Child welfare, youth residential treatment, schools, etc.), geographic location (country and region) where research took place, aims of the study, methodology, measures/data collection method, data analysis method, sample, implementation model(s) utilized, TIC model(s)/framework(s)/guide(s) utilized, types of systems-level interventions used (e.g. training, policy change, leadership development etc.), key results, and implications for research and practice. However, as discussed later on in the paper, articles were not always forthcoming with all these details about their research and it was not always possible to extract data for all these categories of analysis. In stage 5, data was collated and summarized numerically and thematically in order to provide a comprehensive overview of all the material reviewed in a way that best responded to the research question and objectives.

Results

Characteristics of the research studies

Overarching methodological approach

Table 1 classifies the types of articles that were included in this review by overarching methodological design. Quantitative research clearly dominated the scholarship. Moreover, the overwhelming majority of quantitative studies represented outcome-based, pre-post test research designs. The mixed methods studies were also largely outcome-based, pre-post test designs that complemented this type of data with focus groups and/or interviews with staff. Descriptive, commentary and theoretical articles that either advocated for the adoption of TIC, provided a theoretical framework for TIC or described TIC implementation initiatives made up a large part of the TIC literature reviewed during the screening process. Five quasi-empirical, descriptive articles were included because they blurred the distinctions between empirical and descriptive by providing valuable information about various aspects of TIC implementation processes from the perspective of researchers who participated in them (Akin et al., 2017; Collin-Vézina et al., 2019; Fraser et al., 2015; McCorkle et al., 2005; Regan, 2010). These papers often provided insights into the implementation process that the rest of the outcome-focused literature had difficulty capturing.

Table 1. Articles Reviewed by Research Design

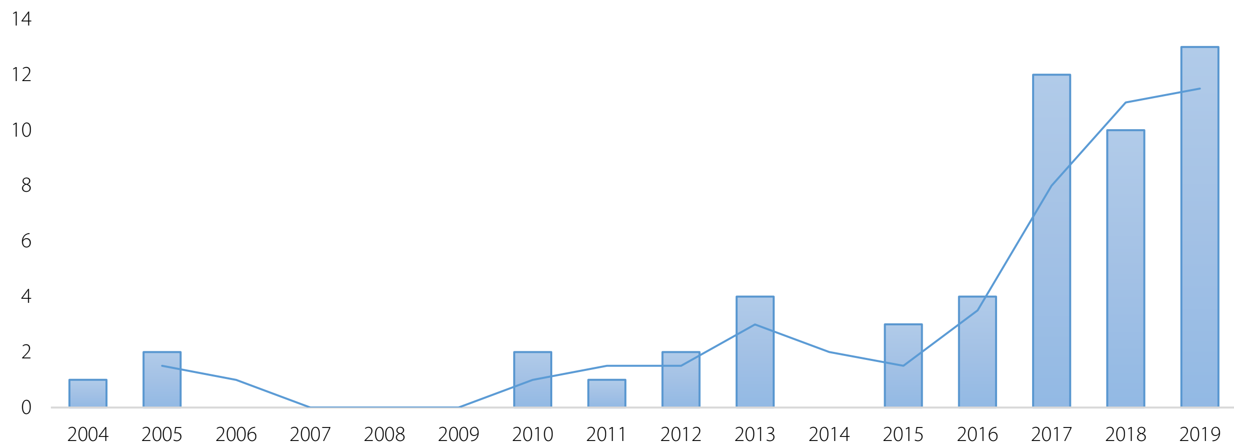
Research design	Articles reviewed	
	n	**%**
Descriptive	5	9
Qualitative	5	9
Mixed Methods	12	22
Quantitative	32	60
Total	**54**	**100**

The over-representation of quantitative, outcome-focused studies may reflect a willingness to prove that TIC "works" and generate evidence to back up the movement's calls for its widespread adoption. It may also reflect the hegemony of evidence-based practice's (EBP) hierarchy of evidence, which seemed to pervade this scholarship. When studies discussed how and why they chose their methodology and recommendations for future research, they often referenced how experimental research, especially the randomized control trial (RCT), was the gold-standard for rigorous evidence and that more RCTs were needed to validate the effectiveness of TIC. Only one study in the review actually used the RCT method, (Hoysted et al., 2019) and perhaps not coincidentally, it evaluated the shortest, most limited implementation initiative of all the studies: a 15-minute online TIC training program for pediatric emergency department staff. Several other studies used other experimental or quasi-experimental designs, but tensions and contradictions emerged between the pressure to produce what EBP considers gold-standard evidence and the suitability of experimental methods for studying TIC implementation. In discussing their rationale for not choosing an experimental method, Murphy et al. (2017) state that "it became clear that training all staff in TST [trauma systems therapy] and facilitating their fidelity to the TST model is not an event; rather it is an iterative process that takes place over time and requires substantial investment, coordination and effort" (p. 25). TIC implementation researchers may need to grapple with whether RCTs or other types of experimental research are appropriate for studying such complex, emergent and iterative phenomena. If there continues to be pressure to conduct experimental, outcome-based research, research that could generate more nuanced, rich data about implementation processes will continue to be de-prioritized. It may also be important to consider forms of research that better address the complex sociopolitical context of TIC implementation and/or meaningfully address equity issues and power dynamics at play.

Publication date

Data regarding the publication dates of articles selected revealed important information about the history of publication trends in this scholarship. "Using Trauma Theory to design service systems", the seminal theoretical anthology that first coined the term "trauma-informed care", was published in 2001 by Harris and Fallot. After this, empirical literature on TIC implementation slowly began to appear in the mid-2000s. Two other highly influential theoretical texts were published in the early 2010's: the Attachment, Regulation and Competency (ARC) framework manual in 2010 by Blaustein and Kinniburgh, and the Sanctuary Model manual in 2013 by Bloom and Farragher; these were followed by an exponential growth in the empirical literature on TIC in the CYSSs from 2014 to the present. Figure 1 graphs the number of articles that were selected for this in-depth review by the year they were published. Likely due to the much higher volume of TIC studies that are being published as of late, the majority of the articles reviewed for this paper were published in the last three years.

Figure 1. Articles Reviewed by Year Published.



Geographic location

Table 2 illustrates how TIC scholarship is overwhelmingly concentrated in the United States, with 87% of articles meeting inclusion criteria reporting on US studies. This should not come as a surprise given that the concept of TIC was developed in the United States, but it remains clear that there are gaps in knowledge around its applicability and relevance in other contexts. Studies categorized as "International" conducted research in multiple geographic locations that crossed the state borders of Canada, Australia and the United States as well as Scotland and New Zealand.

Table 2. Articles Reviewed by Location of Study

Country	Articles Reviewed	
	n	%
Canada	2	4
Australia	2	4
International	3	5
United States	47	87
Total	**54**	**100**

Table 3. Articles Reviewed by Sector

Sector	Articles Reviewed	
	n	%
School	3	6
Community Mental Health	4	7.5
Inpatient Psychiatric	4	7.5
Health	5	9
Other	5	9
Multisectoral	5	9
Residential Treatment	13	24
Child Welfare	15	28
Total	**54**	**100**

Service sector

Table 3 lays out the various CYSSs represented in the articles selected for an in-depth review. Studies from the child welfare and adolescent residential treatment sectors made up over half of the literature reviewed for this paper and seem to be the sectors with the most robust TIC implementation evidence base. The studies categorized as "Other" had less than three published studies meeting inclusion criteria within their sector. These studies represented the diversity of sectors engaging in TIC implementation and included family drug treatment court, gang intervention, home visiting, and youth justice. This hints at the widespread interest in TIC but also suggests there may be limited penetration of TIC within these diverse service sectors to date. Studies categorized as "Multisectoral" collected data from professionals and organizations across different sectors.

There were many multisectoral TIC studies in the search results that were screened and excluded because they did not specify explicitly whether they included child- and youth-serving professionals or organizations. This may reflect how there has yet to be a strong emphasis in the TIC literature about the important developmental considerations of trauma-informed service delivery with young people, as well as the unique methodological considerations for studying TIC with children and youth. Even in the literature that was selected and reviewed for this paper, TIC frameworks that were developed either for the adult-serving sector or ones that were developed to be universal were often applied to the CYSSs without adaptation. This fails to address the ways that trauma, especially complex trauma, can derail healthy development and ignores the need for TIC to address gaps in core developmental competencies in complex trauma-impacted children and youth (Blaustein & Kinniburgh, 2010; Perry, 2009). Developmental science has found that development occurs sequentially, with each competency laying the foundation for increasingly complex competencies. A trauma-informed approach with children should include these developmental considerations. The ARC model (Blaustein & Kinniburgh, 2010) seems to be among the few TIC frameworks that meaningfully integrates the findings of developmental science in their approach.

However, ARC targets the therapeutic relationship between staff and the children and youth in their care. While systemic in certain aspects, the framework is not comprehensive enough to provide guidance for creating and sustaining organizational culture, structure and policy that could support ARC implementation. The theoretical literature is clear that TSIs must be implemented within an organizational context that is trauma-informed in order for service users to safely access them. As ARC straddles the divide between a TSI and a systems-level intervention, initiatives implementing ARC have had to borrow from other frameworks with more of a focus on organizational development to support implementation initiatives. Yet, none of these organizational development frameworks are geared towards CYSSs, which may suggest that one does not yet exist. This remains an important gap in the TIC literature and demonstrates how TIC may not yet be fully adapted for the CYSSs in ways that sufficiently incorporate child development science as well as organizational development theory. It points to the lack of comprehensive TIC models that incorporate guidance on all aspects of operations of trauma-informed service provision with young people, from the more micro aspects like intervention approaches to the more macro aspects such as organizational policy, an issue that will be further explored throughout the paper.

Characteristics of the implementation initiatives

Scale and scope of the implementation initiatives

Consistent with the findings of other reviews, there was a high degree of variability in the scale and scope of TIC implementation initiatives studied by the articles included in this review, between and within sectors. However, child welfare tended to have the largest initiatives in scale and scope, while pediatric health care generally had the smallest. In order of the smallest scope to the largest scope, the initiatives ranged from:

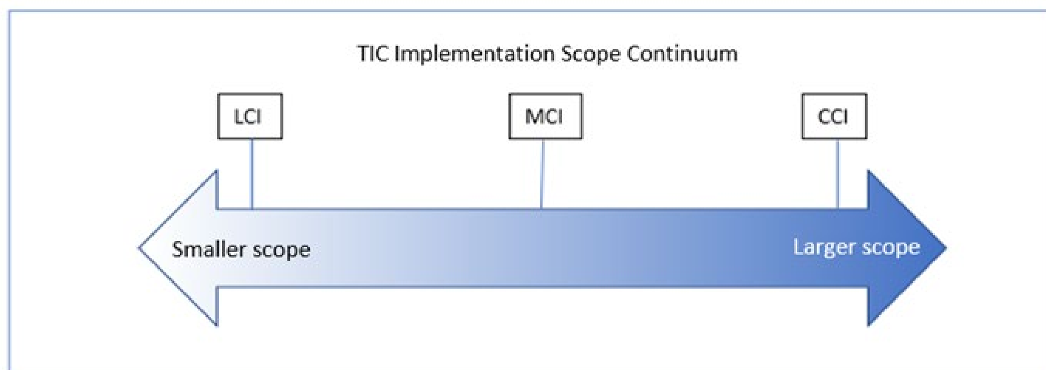
1. one-off, staff training-only initiatives with durations ranging from 15 minutes to several days;
2. initiatives only implementing a new trauma screening protocol;
3. initiatives providing ongoing TIC training, coaching, supervision, and leadership development;
4. initiatives that combined TIC training with ongoing support, coaching, and/or supervision, and changes to organizational culture, structure, policy and physical environment.

Some initiatives were very small in scale, studying a small agency or a single department within a larger organizational context, while others encompassed entire citywide or statewide child-and youth-serving systems of care. A post hoc analytical frame, entitled the TIC Implementation Scope Continuum, was developed to classify the wide range of TIC implementation initiatives. It is informed by the theoretical TIC implementation literature that

recommends taking a comprehensive, multi-stage, whole-system approach (Bloom & Farragher, 2013; Elliott et al., 2005; Harris & Fallot, 2001; Hopper et al., 2010).

As pictured in Figure 2, the left end of the continuum represents limited change initiatives (LCIs) which make up about one third of the studies, where the TIC implementation activities (TIAs) were brief, narrow in scope and targeted only one or two levels of organizational operations. These generally consisted of one-off trainings with little to no follow-up and few, if any, interventions to address the physical environment and/or organizational culture, structure and/or policy. The right end represents comprehensive change initiatives (CCIs) which make up about another third of the studies that used numerous different strategies over longer periods of time to create changes in the organizational culture, structure and policy as well as the broader service system in order to support whole-system TIC. In the middle were the other initiatives that made moderate efforts to address organizational culture, structure and policy using a few different types of interventions over a moderate period of time. These were termed moderate change initiatives (MCIs). There was a relatively even breakdown of studies classified as LCIs, MCIs and CCIs in the sample of articles reviewed, with about one third within each of the three categories along the TIC Implementation Scope Continuum.

Figure 2. TIC Implementation Scope Continuum



Limitations of LCIs. The relatively even spread of initiatives across the continuum points to the high diversity of TIC implementation initiatives. It also suggests that most initiatives do not have the resources or the theoretical grounding to take a comprehensive, whole-system approach to implementation. There is a growing recognition that training alone, especially training that is short, one-off and didactic, has a limited impact (Baker et al., 2018; Beidas & Kendall, 2010; Denison et al., 2018; Williams & Smith, 2017). Also, Lang et al. (2016) state that "as interest in trauma-informed care grows, there is a risk that 'receiving some trauma-related training' becomes equivalent to 'being trauma-informed'. However, we believe that trauma training is an essential but not nearly sufficient element of a trauma-informed system" (p. 122). There is growing evidence that training-only interventions have limited impacts on observable changes in practice, beyond those that are self-reported (Beidas & Kendall, 2010; Damian et al., 2019; Williams & Smith, 2017). In one study, Goetz and Taylor-Trujillo (2012) found that shifting practice to become more trauma-informed was challenging, with staff often "reverting to previous and familiar interventions" post-training and that "consistency, reinforcement, and support for the new interventions were a continuous process" (p. 102). Damian et al. (2019) found that while workers' knowledge of TIC increased after training, they felt that their capacity to provide TIC to their clients did not. These workers reported feeling disempowered to make change within their organizational culture, policy and structure due to a lack of buy-in from upper management. Meaningful change requires ongoing work and the participation of all levels of the organizational hierarchy to be sustained, especially in complex service systems where change is difficult and where the dominant service delivery paradigm may be incompatible with TIC principles (Bryson et al., 2017; Jankowski et al., 2018; McCorkle et al., 2005; Regan, 2010).

TIC implementation may need to be more clearly and emphatically defined as an organizational transformation process and an emphasis made on how training alone does not accomplish this. Moreover, it may be advisable for LCIs like short, one-off TIC trainings, to not use the term "TIC implementation" at all to refer to their initiatives and studies. It may be more accurate for LCI studies to use terms likes "trauma training evaluation" or "trauma screening evaluation" and this may help address the issue of heterogeneity in the literature. As it could be argued that

LCIs do not encompass the crucial facets of TIC implementation as defined by the theoretical literature, the term "implementation" was not used to define the various scales (LCIs, MCIs and CCIs) of the TIC implementation Scope Continuum. It may be advisable for this field to come to a consensus that TIC implementation is necessarily an endeavour that requires more than just training or just screening and that LCIs using only these interventions should not be considered "TIC implementation".

Characteristics of CCIs. To contrast the articles studying LCIs, there were over a dozen articles in the review that studied large US TIC implementation projects, and several articles reporting on different aspects of the same massive change initiatives (Conners-Burrow et al., 2013; Damian et al., 2017, 2018; 2019; Murphy et al., 2017; Redd et al., 2017). For example, two articles (Barto et al., 2018; Fraser et al., 2015) studied the Massachusetts Child Trauma Project (MCTP), a large five-year statewide, multi-sectoral systems-improvement initiative. The Massachusetts's child welfare system collaborated with two mental health agencies and two large, urban medical centers to positively influence complex trauma-impacted young people's safety, permanency, and well-being; objectives that were common to most child welfare-based initiatives. In this sample of studies, multisectoral collaboration in the context of a CCI often took place between the child welfare and pediatric mental health-care systems.

The MCTP was guided by Trauma Informed Leadership Teams (TILTs), a leadership model that developed by the National Child Traumatic Stress Network's (NCTSN). TILTs, made up of major stakeholders from the child- and youth-serving system of care, including families who access services, were tasked with "installing and supporting a structure for TIC systems integration at the community level" by enhancing coordination, collaboration and adopting a shared language for understanding complex trauma-impacted children and youth (Bartlett et al., 2016, p. 102). Several other TIC projects (Azeem et al., 2011; Collin-Vézina et al., 2019; Drabble et al., 2013; Esaki et al., 2018; Jankowski et al., 2018; Middleton et al., 2015) used similar models of leadership development and collaboration but, used a diverse set of terms to refer to these strategies. The development of a consensus on TIC terminology for leadership development strategies may be helpful. In the MCTP, the TILTs efforts to create organizational and systemic change were guided by SAMHSA's concept of trauma and guidance for a trauma-informed approach, a guide that was used among a large number of the initiatives in this review (Substance Abuse and Mental Health Services Administration, 2014).

Proportion of the workforce reached. Demonstrating the wide reach of the MCTP, Barto et al. (2018) report that the MCTP had trained 71% of the state's child welfare workers, with a quarter of those receiving advanced training, and had launched TILTs in 27 out of 29 regional child welfare agencies. Reporting on the proportion of the workforce reached by trainings or other implementation activities was not common, as articles would often state the number of staff members trained but not what percentage of the total workforce. This data would provide valuable information regarding the reach of TIA's in a department, organization or service system.

TIC models, guides, frameworks and measures used

The MCTP represents one of the most robust of organizational and systemic change initiatives in this sample of articles, with different types of interventions at various levels of the entire state's CYSSs. It also seemed to be one of the most theoretically grounded, referencing pre-established models of leadership, workforce development, training curriculum, TSIs and trauma-informed organizational culture, structure, and policy. While dozens of other studies also employed some of the same frameworks used by the MCTP, there were a dozen other TIC guides, models or frameworks cited and the combinations of models used in the initiatives was almost never identical to others. Moreover, few used a pre-established, and/or theoretically grounded approach for each of these aspects of implementation. Many initiatives created their own content for their trainings, their own workforce development strategy, their own TIC implementation strategies and their own measures to evaluate the initiative, while some failed to cite any guides, models or approaches they were informed by. There are likely barriers to accessing TIC models and measures, such as financial constraints, but open source TIC guides do exist. However, as mentioned previously, none of the existing guides seemed comprehensive enough to provide recommendations for each aspect, component and level of TIC implementation, from the micro, to the mezzo, to the macro. Because the guides all target different aspects of practice, training, and implementation as well as organizational policy, culture, structure and systemic change, they needed to be combined in order to provide guidance for each component of a TIC implementation process. It may be helpful for the field of TIC scholarship to consider developing resources for implementation in the CYSSs that are more comprehensive.

Transparency. Further complicating reviews of this literature, authors often only provided scant details about the initiatives being studied. They often omitted crucial information about if and how pre-existing TIC guides, models

and frameworks informed implementation, the content and approach of the training(s) provided, the specifics about other implementation activities, and the reach within the organization. The lack of information and clarity about the initiatives being studied represents an important limitation of this literature, a critique shared by Purtle (2020) in their systematic review. Further TIC implementation research should strive to be as transparent as possible about each aspect of the change initiative they are studying.

Types of evidence available

Satisfaction and self-reported knowledge, attitudes, behaviour and practice change

Cross-sectional studies. Satisfaction with TIC implementation activities as well as self-reports of TIC-related knowledge, attitudes, behaviour and practice (KABP) change following TIAs were the most common types of evidence gathered by the studies in this review. Overall, the studies that measured satisfaction found that staff reported the TIC implementation activities to be beneficial and rated them positively (Bartlett & Rushovich, 2018; Conners-Burrow et al., 2013; Hanson et al., 2019; Kramer et al., 2013; Kuhn et al., 2019; Parker et al., 2019). In studies measuring KABP change, researchers generally found statistically significant increases and improvements in KABP following TIAs (Baker et al., 2018; Barnett et al., 2018; Bartlett & Rushovich, 2018; Brown et al., 2012; Conners-Burrow et al., 2013; Denison et al., 2018; Dierkhising & Kerig, 2018; Dueweke et al., 2019; Hanson et al., 2019; Kenny et al., 2017; Kramer et al., 2013; Kuhn et al., 2019; McIntyre et al., 2019; Parker et al., 2019; Schiff et al., 2017; Shamblin et al., 2016; Weiss et al., 2017). However, one study (Beidas et al., 2016) found no difference in knowledge following training and several studies found that despite being significant, the increases in KABP variables were still quite modest (Conners-Burrow et al., 2013; Dueweke et al., 2019; Kramer et al., 2013).

Longitudinal studies. Studies that followed up to explore whether improvements or increases in KABP were maintained over time generated mixed results. For example, Kenny et al. (2017), Kramer et al. (2013) and Redd et al. (2017) found that they were maintained while Beidas et al. (2016) and Jankowski et al. (2018) found that they decreased at follow-up. These mixed results may be influenced by the degree to which the interventions included active and experiential learning opportunities, provided ongoing coaching and supervision and addressed organizational culture, structure and policy (Beidas & Kendall, 2010). The dose of exposure to TIAs also seems important. Barnett et al. (2018) found a correlation between the dose of participation in training and reflective practice groups with self-reported trauma knowledge, suggesting that more engagement with TIAs may increase the level of uptake.

Staff-related variables and KABP change. Some of the studies assessing KABP change looked at how staff-related variables may be impacting the level of uptake. However, this is an undeveloped area of research and the findings that were generated were mixed. Research into the ways that demographic variables like gender and age affect TIC uptake in this scholarship seems to remain undeveloped and inconclusive, as does research into the impact of vocational variables like level and type of education, years of experience, or role in the organization. There were also mixed findings when it came to understanding how staff members who scored the lowest on pre-tests fared post-TIAs. For example, Denison et al. (2018) found that those who changed their attitudes the most were those who had the least favorable attitudes towards TIC pre-TIAs while Kramer et al. (2013) found that supervisors who gained the most knowledge from training were more likely to change their behavior. However, McIntyre et al. (2019) found that among teachers who reported low "system fit" between TIC and their schools, gains in knowledge were associated with decreased acceptability of TIC. They stated that "increased knowledge may have highlighted system barriers rather than supports and ultimately led to lower acceptability scores, contradicting the intended effect of the training" (p. 100).

Studying the ways that psychological variables, like how staff member's trauma histories impact uptake of TIC represents an emerging area of TIC implementation inquiry. While none of the articles in this review set out to better understand how this factor affects TIC uptake, several articles discussed anecdotally how staff's trauma histories impacted TIAs, and a few found that this theme emerged in their qualitative data. For example, Barnett et al. (2018) stated:

> Although high rates of personal trauma among residential and other human service staff is well documented in the literature, we were still alarmed by the number of staff who revealed their own traumatic histories and traumatic stress symptoms, either during the trainings, supervision groups, or written assignments […] No staff were debilitated by these memories and insights; rather, they felt empowered and more effective in their job when allowed to process these experiences in a safe

> environment. Still, devoting more resources, such as outreach and assistance from an Employee Assistance Program, to help staff manage their own traumatic and secondary traumatic stress may have further strengthened the program (p. 110).

Ignoring these psychological factors at play in TIC uptake as well as staff's needs for more support during TIAs represents a major gap in TIC implementation research and practice. Further, research and implementation practice should be more sensitive to staff's needs and more intentional about including a focus on how factors like these impact TIC uptake as well as other facets of TIC implementation.

Staff outcomes

While a trauma lens was largely missing in the research that looked at KABP change, there were two studies that looked at levels of secondary traumatic stress among staff post-TIAs (Baker et al., 2018; Damian et al., 2017). Both of these studies found an increase in secondary trauma levels among staff post-TIAs but interpreted this as an increase in awareness rather than an increase in actual distress. In the qualitative data collected by Baker et al. (2018), they found that participants reported that the training not only helped them identify and understand secondary trauma but validated the experience of secondary trauma as systemic rather than the result of individual deficiencies. Jacobowitz et al. (2015) found that post-traumatic stress symptoms among staff increased as the length of time between attending TIC meetings increased, suggesting that either attendance at meetings is a protective factor or that staff struggling with these symptoms tended to attend meetings less frequently.

With respect to other types of staff-related outcomes of TIAs, there were again mixed results as well as heterogenous variables being studied. For example, Barnett et al. (2018) found no change in staff retention rates, felt sense of safety at work or job satisfaction following a fairly robust TIC implementation initiative. However, Forrest et al. (2018) found "maintained decreases in both staff restraint-related injuries and number of, and average payout of worker's compensation claims, which are likely correlated" (p. 278). Given the wide range of the types of staff outcomes being studied, which range from secondary stress, turnover, job satisfaction to staff injuries, it may take time for enough evidence to be generated about each of them for a clearer picture to emerge about how each is impacted by different types of TIAs in different contexts.

Child and youth outcomes

Some of the TIC research studied the ways that the children and youth being served were impacted following TIAs. Again, they reported on a highly diverse set of variables but generated promising results, which hinted at the ways that TIC could bolster child and youth resilience. The Ashby et al. (2019) study of TIC implementation at an obstetric and pediatric medical home for pregnant and parenting adolescent girls and their children found significant improvements in attendance at prenatal appointments and in the birthweight of babies born to girls in the program. Forrest et al. (2018) found decreases in restraint-related injuries in their clients and Murphy et al. (2017) found greater placement stability. Several studies observed improvements in many aspects of children and youth's overall health, functioning and well-being (Hodgdon et al., 2013; Murphy et al., 2017; Pollastri et al., 2016; Rivard et al., 2005; Shamblin et al., 2016). These studies looked at variables such as emotional regulation, externalizing and internalizing behaviors, PTSD symptoms, somatic complaints, rates of self-harm, and school functioning with limited overlap between the outcomes being measured between studies, even between those from the same sectors. Sadly, none of the studies in this review sought direct feedback about the changes being made from the children and youth that the departments, organizations or systems were serving. The studies generally chose a more indirect route by exploring child and youth outcomes through administrative data or chart review. Consulting directly with the children and youth being served about the changes being made may be an important direction for future research.

Organizational / Systemic outcomes

Overall, there was again little consistency in terms of the variables being measured and results being generated, except when it came to scholarship about the impact of TIAs on seclusion and restraint practices in inpatient and residential facilities. TIC implementation initiatives that targeted reductions in seclusion and chemical/physical restraint practices seemed quite successful. All studies that collected data on these practices found a reduction post-implementation that was generally maintained at follow-up (Azeem et al., 2011; Forrest et al., 2018; Goetz & Taylor-Trujillo, 2012; Hambrick et al., 2018; Hodgdon et al., 2013; Pollastri et al., 2016; Regan, 2010). Moreover, some of these reductions were linked to organizational culture change following TIAs (Drabble et al., 2013; Goetz & Taylor-Trujillo, 2012; Regan, 2010; Rivard et al., 2004, 2005). For example, Goetz and Taylor-Trujillo (2012) found that:

> the culture of the units moved from one of quickly subduing a patient who is aggressive to allowing whatever time was necessary to work with a patient to reduce his or her anxiety and fear, or anger. The staff members were taught to use a "show of support" instead of a "show of force" with patients (p. 99).

These changes were also linked to significant cost savings. Hambrick et al. (2018) state that over one million dollars may have been saved over six-years while Pollastri et al. (2016) estimate $339,703 in savings over four years. Both of these studies used estimation guides developed by Lebel and Goldstein in 2005 that suggested that the average restraint in an inpatient facility costs approximately $350 due to requiring approximately 12 person hours. Studies that looked at critical and violent incidents also reported overall decreases following TIAs (Baetz et al., 2019; Barnett et al., 2018; Goetz & Taylor-Trujillo, 2012).

Of the studies that found mostly improvements in organizational and systematic TIC outcomes, Beidas et al. (2016) found an increase in the number of providers of TSIs in the area and an increase in youth identified and treated. Moreover, Redd et al. (2017) reported that fidelity measures of the TIC model used increased over time and Shamblin et al. (2016) found a decrease in negative attributes of the preschool learning environment. However, many studies reported having more difficulty creating a meaningful impact on the organizational or systemic contexts (Damian et al., 2019; Hummer et al., 2010; Jankowski et al., 2018; Lang et al., 2016; Williams et al., 2017). For example, Hummer et al. (2010) found that while many of the TIC principles were beginning to be operationalized among the agencies being studied, most agencies had not yet acted on creating supports or resources for staff experiencing secondary trauma as a result of their work with complex trauma-impacted children and youth. Qualitative evidence from the Watt (2017) study revealed how the TIC approach can sometimes clash with the conventional approach to youth mental health in the US, which is based on the Diagnostic and Statistical Manual of Mental Disorders (DSM). Watt reports that their findings reveal that "when the two frameworks clash, the DSM system ultimately ignores, defeats, or co-opts the trauma perspective in order to maintain dominance" (p. 401). This study highlights the structural barriers to TIC implementation and the challenges associated with fostering a paradigm shift in service delivery philosophy.

Reporting on organizational and systemic outcomes of TIC implementation helped to triangulate the self-reports of KABP change with data that reflected observable changes to behaviour and practice, such as administrative data. When present, this triangulation provided insight into how much the self-reported changes to KABP translated into observable change to behaviour, practice and organizational climate. Outside of the seclusion- and restraint-based scholarship, it revealed that observable changes to KABP were more limited than those that staff self-reported. For example, Dueweke et al. (2019) found that despite a statistically significant increase in KABP among pediatric residents following TIAs, there was minimal change to resident's screening and referral practices as measured by administrative data. Future research should consider including at least one type of organizational or systemic indicator that could triangulate self-reports of KABP change.

Characteristics of the TIC implementation process

Complexity of the process. Most articles, especially those studying MCIs and CCIs, described TIC implementation and the process of studying TIC implementation as resource intensive, iterative and highly complex. For example, an article from the youth justice sector states: "the move towards trauma-informed care (TIC) is neither simple nor straightforward" (Collin-Vézina et al., 2019, p. 634). Moving forward, it may be helpful to conceptualize TIC implementation through the lens of complexity science which understands organizational change as an unpredictable and messy process (Day, 2020). As Bryson et al. (2017) state in their systemic review of TIC in youth inpatient and residential settings, "we are dealing with complex social interventions which act on complex social systems. These are not magic bullets which will always hit their target, but programmes whose effects are crucially dependent on context and implementation" (p. 9). In light of this, a comprehensive, whole-system approach to the implementation process that is theoretically grounded, developmentally informed and is flexible enough to be adapted to each organization's unique context was recommended throughout this literature.

Facilitators of the process. The most salient facilitators of TIC implementation in the CYSSs that emerged from this review are: 1) commitment from senior leadership, 2) ongoing staff support, and 3) intra-organizational and inter-organizational collaboration. Implementation initiatives that only engaged front-line staff generally had a limited impact as buy-in from senior leadership was required to make meaningful changes to organizational culture, structure and policy (Damian et al., 2019). When all levels of the organization or system were engaged and on board, meaningful changes were more easily achieved (Barnett et al., 2018; Lang et al., 2016; Williams et al., 2017). Moreover, the Middleton

et al. (2015) qualitative study of leadership styles found that successful leaders of Sanctuary Model implementation used a transformational leadership style which promoted open dialogue, the empowerment of staff and the interrogation of commonly held assumptions. One-off training interventions generated limited impacts, as staff members generally needed ongoing coaching, mentoring, supervision and/or training to support the process of integrating new knowledge and applying it in challenging practice contexts (Ashby et al., 2019; Azeem et al., 2011; Bartlett & Rushovich, 2018; Collin-Vézina et al., 2019; Hambrick et al., 2018; Lang et al., 2016; Price et al., 2019). The development of a shared TIC language and perspective was often discussed as an outcome of TIAs and also as an important step towards improved communication and collaboration within and between service providing organizations (Bartlett & Rushovich, 2018; Barto et al., 2018; Beidas et al., 2016; Jankowski et al., 2018; Redd et al., 2017). Effective communication and collaboration was necessary for facing the complexity of the challenges associated with implementing TIC throughout a service system and with tailoring the TIC frameworks to local needs.

Barriers to the process. The most common barriers to TIC implementation included scarce resources, time constraints and competing demands (Damian et al., 2018; Dueweke et al., 2019; Fraser et al., 2015; Jankowski et al., 2018; Kramer et al., 2013). Taking time away from heavy caseloads to engage in TIAs was difficult to navigate when organizational funding often depended on the volume of clients being served. Some of the studies also illuminated barriers that were structural and emerged from inequitable power relations. Regan (2010) reported on the power struggles that emerged between the nurses and physicians on an inpatient unit when nurses started resisting the use of chemical restraints following TIAs. The physicians on the unit were not accustomed to their orders for intramuscular injection not being met with unquestioning obedience. McCorkle et al. (2005) discussed the racial power dynamics between TIC consultants, trainees and the children and youth being served, reporting that a participant made the following comment during a training session: "This project sounds like several white people telling a whole lot of black people how to care for a whole lot of black children" (p. 130). Exploring the ways that TIC disrupts or reinforces existing power relations within organizations is an important direction for future research.

Conclusion

The variability in the types of TIC implementation initiatives being studied, the types of evidence being collected and in the findings being generated points to the complexity and infancy of this research area. The variability in the quality, scope, scale and transparency of TIC implementation research and practice may reflect the rapid expansion of the TIC consultation and training industry and the need for more reflexivity and thoughtfulness as the TIC field grows. Systemic change across a wide range of sectors is nothing short of complex and it is clear that for the scholarship to progress, researchers will need to be more creative in developing methodologies that are more suitable for capturing the complexity of organizational and systemic change. In order to do so, thinking outside the box of the EBP hierarchy of evidence will be important, especially as the TIC framework evolves to include a better response to structural violence. Working towards a consensus about the core components of TIC implementation should also be a priority given the limited impacts of LCIs. However, it is important to balance the need for clearer guidelines with the need for these guidelines to be tailored to the unique needs of each different service provision context. Furthermore, as this field matures, it would be advisable to increase the transparency regarding the characteristics of the change initiatives being studied. In order to generate a nuanced knowledge base about how to best create change in a variety of different contexts, more details about each aspect of the change initiatives will be needed.

While certain process-related factors that contribute to successful implementation are becoming clearer, the outcome-oriented TIC scholarship was highly variable and had yet to produce conclusive evidence about many aspects of TIC implementation. However, the preliminary outcome-based evidence suggests that when comprehensive approaches to implementation are taken, harmful, coercive and violent practices and incidents are reduced, and child and youth resilience and well-being is bolstered. Other preliminary evidence points to the relatively consistent increase in self-reports of TIC-favorable knowledge, competency, attitudes and beliefs following TIAs. However, research shows that these increases are often modest, not always maintained over time and not easily translated into changes in behaviour, practice and organizational climate due to a wide variety of barriers. In order to address these barriers, the evidence suggests that TIC implementation requires a comprehensive approach that includes commitment from senior leadership, ongoing support, and collaboration within and between service providing organizations and systems. Before investing in TIC training, organizational leaders should consider the readiness of the organization to change and the capacity and resources available to support TIAs over time. The booming TIC training industry may be

overselling the benefits of one-time training initiatives and a little training does not a trauma-informed organization make.

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International Journal of Child and Adolescent Resilience | Revue internationale de la résilience des enfants et des adolescents

Exploring resilience in the affect regulation of family violence-exposed adolescents: « *des fois ça marche, des fois, ça [ne] marche pas* »

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Abstract

Objectives: The study explores the presence of the three components of Ungar's (2019) biopsychosocial process definition of resilience in the context of family violence-exposed adolescents' descriptions of affect regulation when experiencing high affect arousal.

Methods: A convenience sample of 16 youth, age 15-25 with histories of family psychological, and/or physical violence exposure, completed semi-structured qualitative interviews describing affect regulation during arousal states in past stressful situations. Interviews were recorded and transcribed verbatim. Utilising deductive framework analysis, predefined thematic coding was conducted in NVivo.

Results: Rich descriptions were generated of youth's adaptive capacities to regulate affect while under stress. We explored the presence of the three components of Ungar's (2019) resilience definition in the data: 1) Risk affect regulation during hyper-/hypo-arousal states, 2) Navigation of access to and negotiation for meaningful promotive and protective internal and external factors, and 3) Resilience outcomes of recovery, adaptation, and transformation. The framework analysis of Ungar's (2019) resilience definition illuminated differential interactions between adolescents and access to resources in their environments. Despite some resource deficits, participants demonstrated adaptive resilience when regulating affect.

Implications: Ungar's (2019) process resilience definition highlights the interconnection between youth's resource needs and the capacity of their environments to provide them to enhance resilience. Results suggest that interventions to increase resilience should incorporate the full biopsychosocial ecological process model with a focus on regulation capacity. The knowledge gained from youth perspectives of affect regulation processes is directly applicable to complex trauma-informed interventions to increase self-regulation and resilience while reducing behavioural reactivity for violence-exposed adolescents.

Keywords: Adolescent; affect regulation; resilience; trauma.

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Introduction

Child and adolescent resilience research explore why some children exposed to high adversity such as family violence manifest biological, psychological, and social harm and some do not, to inform intervention practice and policy. Researchers initially conceptualized resilience as an absence of enduring biopsychosocial impairment, defined as imperviousness or the capacity to overcome the effects of atypical adversity (Masten, 2014). Assessing youth resilience often focused on behavioural outcomes construed as risky or antisocial, (i.e., substance abuse, truancy, aggression, and violence perpetration; Wright et al., 2013). Resilience theories have shifted from prioritizing and pathologizing behavioural outcomes as resilience indicators towards privileging processes of adaptation to exposure to significant adversity. Adaptation is conceptualized as contextual, varied, malleable, and dynamic; what is adaptive in one environment may be maladaptive in another (Bonanno & Burton, 2013; Cicchetti, 2013; Ellis & Del Giudice, 2019; Malhi et al., 2019; Ungar, 2017, 2019). Resilience as adaption is a function of interactions amongst biopsychosocial risk and protective factors operating within a complex person-environment social ecology (Cicchetti, 2013; Ungar, 2019). These evolutions in definition require new approaches to researching resilience with vulnerable youth (Wright et al., 2013; Ungar, 2019).

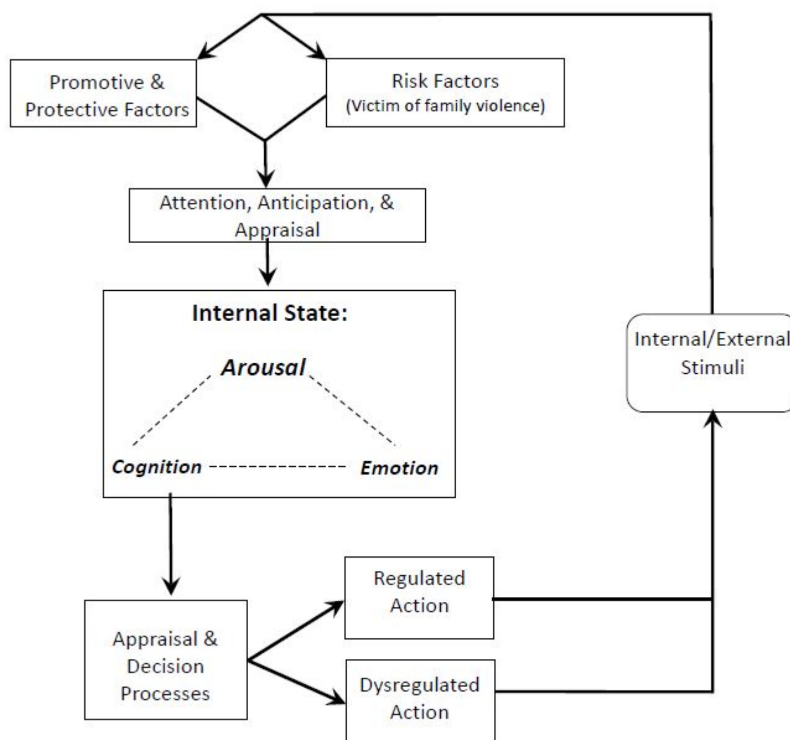
Concurrent to the evolving definition of resilience, the capacity to regulate affect has emerged as a central biopsychosocial process in child and adolescent development that is specifically vulnerable to injury (trauma) in high-adversity environments. Affect regulation, the ability to modulate internal physiological, emotional, cognitive, and behavioural responses to external and internal stress (affect arousal), is both at risk for and protective against trauma. Affect regulation is a primary target in trauma-focused interventions. A genre of interventions for high adversity-exposed children and youth focused on developmental and complex trauma has emerged which are informed by resilience theories and research (e.g., Blaustein & Kinniburgh, 2019; Perry & Hambrick, 2008). Research at the intersection of affect regulation and resilience is needed to continue refining trauma-focused interventions with children and adolescents exposed to high stress, including family violence, to enhance resilience.

Exposure to family violence as a witness to or victim of aggression and assault during childhood is associated with risk of biopsychosocial injury (Althoff et al., 2010; Boxer & Sloan-Power, 2013; Cicchetti, 2013; Teicher & Samson, 2016). Transdisciplinary study of stress responsivity has revolutionized our understanding of how reactions to exposure to adversity become entrenched to influence current and future functioning (e.g., Belsky & Pluess, 2013; Del Giudice et al., 2011; Karatsoreos, & McEwen, 2013; Teicher & Samson, 2016). The psychobiological mechanisms of the complex interactions between self and environment, in which we are continually responding to internal and external stimuli while regulating our stress responsivity to maintain our affective baseline, have been well articulated (e.g., Ellis & Del Giudice, 2019; Kalisch et al., 2015; Malhi et al., 2019). For some, exposure to chronic or extreme stressors (i.e., family violence), can effectuate changes in brain structure and function. Brain trauma, in turn, can impair the capacity to regulate affect in high arousal states (Ellis & Del Giudice, 2019; McEwen, 2007; Raio et al., 2013; Repetti et al., 2002; Romeo, 2013). Affect is at the centre of the looping processes of appraisal of stimuli, physiological response, emotion and cognitive processing, and behaviour within the person-environment interaction (see Figure 1; Althoff et al., 2010; Anderson & Bushman, 2002; Ellis & Del Giudice, 2019; Malhi et al., 2019).

Adolescent affect regulation

Learning to regulate affect arousal is a primary task of adolescent development and a crucial indicator of trauma and recovery (Dishion & Connell, 2006; Malhi et al., 2019; Nader, 2011; Schriber & Guyer, 2016). Throughout adolescence into young adulthood, the capacity to regulate matures physically (in the brain) and socially as youth develop strategies and patterns of regulation to adapt flexibly to different levels of stress stimuli (Romeo, 2013; Schriber & Guyer, 2016). Although risky or impulsive behaviour associated with adolescent dysregulation is normative, pervasive dysregulation as the result of trauma has very different implications (Davidson et al., 2000; Ellis et al., 2012; Schriber & Guyer, 2016). For example, dysregulation in the form of hypervigilance to threat developed in a violent home is adaptive and promotes safety. However, hypervigilance to threat at school manifesting in either aggression or withdrawal may be pathologized and policed with negative consequences (Ellis & Del Giudice, 2019; Nader, 2011; Raio et al., 2013). A focus on behaviour independent of its social-ecological context may result in restricted access (i.e., school expulsion) to supportive resources adolescents need to develop resilience (i.e., increase regulation capacity under stress and reduce hypervigilance) and recover from biopsychosocial trauma.

Figure 1. The General Aggression Model (GAM). Adapted from "Human aggression," (Anderson & Bushman, 2002)



Complex trauma

Maltreated youth manifest a broad range of traumas that influence their resilience (see Collin-Vézina et al., 2011; Courtois, 2008; Milot, Collin-Vézina, & Godbout, 2018). Trauma is both exposure to traumatogenic stressors and the biopsychosocial injury from that exposure. Family violence often occurs more than once; chronicity increases the potential for brain injury that may also be recurrent (Repetti et al., 2002). Complex trauma "refers to a type of trauma that occurs repeatedly, usually over a period of time and within specific relationships and contexts" (Courtois, 2008, p. 86). Interventions for complex trauma, informed by transdisciplinary research on stress physiology and resilience, situate affect regulation as a central process in responding to and recovering from adversity (Courtois, 2008; Malhi et al., 2019; Milot, Lemieux et al., 2018). Affect regulation process models (see Figure 1) demonstrate regulation as a continuous looping biopsychosocial activity in which the past (i.e., childhood family violence, enhances or inhibits present and future resilience; Althoff et al., 2010; Dugal et al., 2018; Ellis & Del Giudice, 2019; Greenberg et al., 2017; Malhi et al., 2019).

A biopsychosocial ecological definition of resilience

Theoretical and empirical explorations of risk and resilience have proliferated (Ungar, 2011, 2019; Wright et al., 2013; Yoon et al., 2019). Ungar (2008, 2011, 2019) continues to refine and test a complex integrative cross-disciplinary biopsychosocial ecological definition of resilience:

> The capacity of a biopsychosocial system (this can include an individual person, a family, or a community) to navigate to the resources necessary to sustain positive functioning under stress, as well as the capacity of systems to negotiate for resources to be provided in ways that are experienced as meaningful (Ungar, 2011). (Ungar, 2019, p. 2)

Resilience is a process of "recovery, adaptation, or transformation" (Ungar, 2019, p. 2) in response to "atypical exposure to stress" (p. 2) that optimizes the functioning of a system (i.e., an individual) with a minimum of consequences (trade-offs). Ungar (2019) identifies three interactive dimensions of resilience processes: stress exposure (risk), "promotive and protective factors and processes (PPFP)" (p. 2), and outcomes. Within resilience processes, variability in stress exposure and the complex interactions of PPFP (i.e., resilience-related internal/external resources) in the context

of the culture or ecology of a system reveal differential outcome effects and relevance for systems. Previous resilience conceptualizations focused on PPFP acontextually, attributing resilience to the presence or absence of specific PPFP (i.e., social support); resilience (or lack thereof) may be misattributed through a failure to account for variability in risk exposure and PPFP access (Thibodeau et al., 2017; Ungar, 2015, 2019). Furthermore, without exploring optimal functioning from the perspective of the system or culture, observers may not perceive adaptive strategies (i.e., hypervigilance) as resilience in context and may thus misevaluate resilience outcomes (Ungar, 2019).

Ungar (2011, 2013) operationalizes resilience processes using four principles: navigation, resources, negotiation, and meaning. Navigation is the capacity to and process of gaining access to resources (PPFP) which can be "psychological, social, cultural, and physical" (Ungar 2011, p. 10) that optimize the functioning of a system in specific contexts within a complex and interactive social-ecology. Negotiation is an interactive resilience process within the system's ecology of reconciling trade-offs between resilience enhancing resources that are salient and relevant (meaning) to the system's assessment of optimal functioning. Hypervigilance, understood via Ungar's (2019) definition, is a psychobiological resource that an individual navigates internally and negotiates to maintain despite the psychobiological and social consequences because hypervigilance is meaningful for protection in a violent family environment.

Ungar's (2013, 2019) biopsychosocial ecological concept of resilience integrates the interdisciplinary theory and research on stress response and child development that informs complex trauma interventions for high-adversity exposed youth (Courtois, 2008; Malhi et al., 2019; Milot, Lemieux et al., 2018; Perry & Hambrick, 2008; Schriber & Guyer, 2016). Affect regulation is a central construct in understanding the effect of adversity on resilience and a mechanism to enhance resilience. Ungar's (2019) operationalized definition may be a useful approach to exploring affect regulation risk and resilience in context as experienced by family violence-exposed adolescents.

Objectives

This study is part of a larger study that sought to bridge an existing gap between biophysiological mechanistic descriptions of affect regulation (e.g., Ellis & Del Giudice, 2019) and the lived experience of regulating arousal states by family violence-exposed adolescents. In contrast to research and practice that defines resilience by psychological and behavioural outcomes, we sought to contribute to the existing knowledge base by exploring affect regulation in context as resilience processes. Our study includes Ungar's (2019) three dimensions of resilience research: heterogeneous risk exposure of family violence; PPFPs of affect regulation and other resources; desired outcome of affect regulation resilience. We explored whether or not the processes of Ungar's (2019) definition of resilience were present within our data.

Method

In the larger study, we conducted qualitative interviews to gather rich, descriptive data on the lived experience of affect regulation by adolescent family violence victims to identify "an essential core" of the experience (Vagle, 2014). After receiving university and hospital ethics approval, recruitment began with a community organization serving homeless and at-risk youth and an outpatient adolescent clinic. We utilized three methods of on-site bilingual recruitment: staff-distributed study summaries, fliers, and research assistant-led (RA) individual and group recruitment sessions. Youth self-identified as family violence-exposed. Participation was voluntary and compensated with cash payments and public transit tokens.

Semi-structured in-depth interviews were conducted in French or English from September 2018 to February 2019 by bilingual social work RAs with prior experience with at-risk youth. The study protocol included two 1-hour sessions. Most participants completed both in one sitting with a short break. All interviews were conducted at the recruitment organizations to facilitate participation and coordinate mandatory reporting of new family violence incidents (none were reported). Prior to entering the field, English and Québécois versions of the interview guide were piloted (Creswell, 2013).

Interview questions sought to elicit rich descriptions of hyper-/hypo-arousal states and youth's affect regulation strategies, based on facets of phenomenology, trauma, self-regulation, and resilience theories (Courtois, 2008; Del Giudice et al., 2011; Høffding & Martiny, 2015). We asked participants to think of a specific incident during which they felt as if they might "lose it/péter une coche," (a colloquial proxy for being in an arousal state). Informed by a stress response model (Figure 1), we elicited descriptions of physical, emotional, and cognitive components of hyper-

/hypo-arousal states. Participants were then asked if they experienced an impulse to act, followed by prompts to elicit descriptions of regulation strategies of either taking action or inhibiting action. Whichever (action/no action) they described in the first part of the interview, they were then asked to describe an arousal experience with an opposite outcome. Given our focus on process, not outcome, participants were first prompted about arousal then action. We sought balance in exploring incidents of action and non-action to elicit data representing multiple regulation capacities.

Data analysis

All interviews were digitally recorded and transcribed verbatim with the verbal and written consent of the participant. The qualitative software NVivo was used in coding. Following a first analysis of the lived experience of affect regulation (2020), the PI and one RA conducted a deductive framework analysis (Gale et al., 2013). We created pre-defined codes based on Ungar's (2019) three components of resilience processes (risk, PPFP, and outcomes). The first code was affect arousal as a risk factor, followed by two categories of PPFP system x environment interactions: navigation of access to resources and negotiating for meaningful resources. The system in our analysis is the adolescent and the environment is both internal and external to the individual. We privileged the participants' assessment of PPFP as positive and meaningful. Lastly, we coded for resilience outcomes as recovery, adaptation, and transformation.

Sample characteristics

The purposive sample included 16 participants: one gender non-binary, seven female, and eight male, aged 15-25 years old. Thirteen participants were recruited from a community organization serving homeless and at-risk youth and three from an adolescent health clinic. All participants reported physical or psychological family violence exposure. However, sexual assault by a family member was an exclusion criterion given gender differential and specific effects of sexual victimization (see Daigneault et al., 2007). In the past year, 13 participants had witnessed psychological intimate partner violence (IPV); eight witnessed physical IPV; 10 participants reported parental psychological abuse victimization; 11 reported parental physical abuse victimization. Six participants reported prior youth protection services involvement; all but one of the participants were enrolled in school.

Results

Adolescents described experiences of affect arousal and regulation during incidents in which they did and did not inhibit behavioural reactivity. Participants' experiences and environments were heterogeneous, though given that most participants were currently or recently homeless, the environments were often resource-poor. The efficacy of similar regulation strategies was interpreted differentially by participants both within their own experience and between participants. Using a deductive framework analysis (Gale et al., 2013) to explore the presence of Ungar's (2011, 2013, 2019) process definition of resilience illuminated biopsychosocial interactions in context that influence youth in their regulation strategies. Gaps in environmental resources or in the meaningfulness of resources to support and enhance optimal functioning for family violence-exposed youth were evident.

Affect arousal as a risk factor

Affect arousal occurs in response to internal and external stress. Family-violence exposed adolescents may be especially sensitive to stress which induces arousal:

> *Des fois y'en parle avec les autres pour dire faut pas trop y aller genre trop serré avec moi, c'est sûr et certain que j'aime pas ça pis, des fois j'peux ben être gentil dans la vie, j'suis pas quelqu'un qui est comme méchant mais j'peux devenir méchant, si mettons si je veux là.* (14M)

> *…des fois, il y a des petites situations qui font que moi là, je vais capoter ma vie. Des fois, je le sens que j'ai envie de passer à l'action.* (12F)

For some, stressors are external and chronic:

> *… quand qu'il y a l'autorité, je pense à mon beau-père. Mes boss, peu importe si sont vraiment fins avec moi, après deux, trois mois, je me tanne d'eux, pis j'vois juste le négatif chez eux […] Pis que, faut que j'sois professionnel pis je [ne] le suis pas donc je quitte par moi-même [...] Parce que j'ai tendance à considérer l'autorité comme mon beau-père.* (13M)

An accumulation of environmental stressors overwhelmed regulation capacity for many participants:

> *C'est comme si que j'ai passé une journée de merde, puis j'ai une situation de merde, ce qui s'en vient, je [ne] suis pas capable de gérer ça.* (16M)

> *La dernière fois que j'ai failli péter ma coche était au travail. Le travail c'est un peu stressant en tant que tel, pis t'sais y'a tellement de monde qui parle autour de moi, qui ont besoin de quelque chose, s'ils me demandent plusieurs choses en même temps. Là j'pourrais pas là, c'est une chose qui me stresse le plus, pis on dirait que si je me retourne, c'est là qu'ils me demandent plusieurs choses en même temps mais t'sais j'peux pas me diffuser en quatre parties, j'tourne en bombe à retardement.* (14M)

> *… quand je pète ma coche, c'est un excès de pensées, c'est un excès d'émotions, c'est des choses inutiles.* (4NB)

Optimal affect regulation is a coordinated flexible biopsychosocial response to reduce arousal and prevent affect dysregulation. Awareness of the components of affect arousal is key to navigating regulation processes and fostering positive adaptation to internal and external stress. Participants described physiological, emotional, and cognitive indicators of hyper-/hypo-arousal and dysregulated states. Many participants were keenly aware of embodied indicators of stress arousal:

> *Mais quand je sens la colère là, c'est plus le sternum [qui] devient chaud bouillant pis j'ai l'impression que ça va juste sortir de la gorge. Sortir de la gorge, toute, j'ai envie de cracher, j'ai envie de crier, j'ai envie d'insulter t'sais. Ouin pis ma mâchoire, pis je deviens distordu, mon cou, toute le chest.* (13M[1])

> *So I get stomachaches; sometimes I puke, I'm so angry. Just grah! And vomit.* (9F)

Participants also described experiences of hypo-arousal:

> *But it's also feeling like your body is kind of limp at the same time, even though people around you don't see it.* (5F)

> *…c'est sûrement quand je pète une coche [que] je peux être très silencieux.se* (4NB)

Heightened physiological arousal evokes emotions. While some participants focused on anger alone, several described complex emotions:

> *J'ai toutes les émotions quand je suis fâchée […] je [ne] les gère pas ben là.* (7F)

Cognitions play a key role in arousal:

> *…[thoughts] will prevent me from sleeping, or I'll be doing my homework, but half of my brain is like "what's the answer to the equation", and then like the other half of my brain is like "what the fucking…"* (1F)

The essence of affect arousal is in the dynamic interaction of emotions, cognitions, and behaviour that in the absence of a capacity to regulate, often led to behavioural reactivity:

> *…something happens and you have an emotion based on something happening. It's not like you ... you choose, yeah in some way you choose to let that affect you, but it's hard you know? Sometimes things just affect you like, I don't know, some things affect you more, some things affect you less, but it's all due to, like, a base, like, I don't know how to explain it. Like, at the source it's ... an emotion and then you think about it and you're like "oh, I could change that" but in the moment you go on like a reaction. Action, reaction, you know?* (9F)

Navigation of access to resources

Strategies for navigating the environment to access PPFP for optimal stress response varied. In the quote above, the participant describes a non-optimal outcome when unable to access an internal resource. Navigation of

[1] Participant number plus gender designation: NB = gender non-binary; F = female; M = male; bilingual translations of data are presented in Appendix

internal and external environments influenced accessing internal and external resources, which in turn supported or inhibited participants' capacity to regulate in stressful situations.

Participants described navigating their internal environment for psychological and cognitive resources to promote optimal stress arousal regulation:

> *… it's almost like when I lose it, I'm like allowing my negative emotion, probably anger let's say, like, consume me. Whereas when I don't lose it, then I'm like, no, I'm like in charge [laughs] and I'm able to kind of be like, "no, I don't want to feel you right now." … So it's easier to calm down, yeah. When I'm not losing it, I'm not allowing the feeling to consume me; I'm kind of just letting it pass.* (1F)

> *…il y a quelque chose de plus gros que la colère, la frustration, la violence pour compenser ça, mais protéger en justifiant que c'est… c'est la force qui va gagner, t'sais, c'est la force.* (2M)

> *Ça veut dire j'ai gardé le contrôle, c'était… une belle victoire… pour moi personnellement […] je fais toujours des efforts pour arriver à avoir un contrôle de soi* (10M)

Many reported needing solitude in which to access internal regulation resources:

> *Je fais juste m'isoler pendant un instant, puis je me mets un peu à jaser avec moi-même, genre, si c'est justifié comment je me sens ou comme si c'est juste moi qui justement a envie de péter une coche. Fait que, j'essaie de comme me parler voir pour me calmer. Puis des fois ça marche, des fois, ça [ne] marche pas.* (3F)

Some sought protective solitude to allow internal dysregulation to occur:

> *… je [ne] le fais jamais avec du monde alentour… c'est le flot d'émotions … qui se relâche, j'ai peur de faire mal à quelqu'un. Fait que je m'arrange pour être tout seul. Je décâlisse, […] je m'en vais dans un coin seul […] où je sens qu'on va me crisser la paix puis je relâche.* (11M)

External resourcing through family relationships could be both protective and promotive in supporting affect regulation:

> *What always helps is talking to my dad. He's very logical. My mom's very emotional. So sometimes she's very emotionally supportive, other times it can be very negative. Whereas my dad's, like, well very logical so […] somehow that helps.* (1F)

Peers provided promotive support to process experiences:

> *[Ma meilleure amie] a su exactement quoi me dire pour pas que j'agisse .... C'était la bonne personne qui m'a dit les bonnes choses.* (11M)

Yet, when navigating for protective resources, peers did not always facilitate access:

> *Puis il y a eu des situations où j'étais violent puis […] je voulais partir faire un 5 minutes pour dépomper pour pas que ça, ça arrive puis tu m'en empêches. C'est sûr que je vais péter une coche tabarnak.* (16M)

> *Beaucoup de… de personnes que je considère comme étant des proches, finalement, ben, ils mettent un couteau dans mon dos puis c'est juste très blessant parce que je sais pu comment gérer ça.* (13M)

Professionals taught participants promotive regulation skills:

> *I saw a therapist [… who] gave me a lot of strategies on managing certain feelings when they arrive, and recognizing them, and so, like, if I'm aware of them, then I can apply those strategies. If I'm not aware of them, then I'm just, like, lost.* (1F)

Some participants describe a lack of access to either internal or external PPFP to inhibit dysregulation and aggression during hyperarousal states:

> *It feels like I can't control, like, my urge to hurt and destroy and break things…situations where I'm so angry it's, like, overwhelming, I've broken [things] … I'll throw it, like, at a wall or at the floor, with [the] intention of breaking it to kind of release just the urge.* (8F)

> *… quand je suis vraiment fâché, ça [ne] marche pas, t'sais. Je peux ben tourner en rond 500 milliards de fois puis sacrer ben raide, t'sais, à un moment donné, … faut que ça sorte là.* (6M)

Negotiating for meaningful resources

Ungar (2019) proposes that the resilience process is one of negotiating trade-offs amongst resources that optimize functioning according to how they are perceived as meaningful by the system. Internal and external resources may be objectively perceived as enhancing function (i.e., family support). However, it is only in a specific biopsychosocial context that what is optimal and what has relevance can be assessed, as the quotes above pertaining to family demonstrate. Thus, to understand affect regulation resilience processes, the trade-offs made between the system and the environment for PPFP must be considered.

One common adaptive trade-off noted earlier is regulation by suppressing and delaying the arousal state in the moment to experience it later under controlled circumstances. This is an important protective internal resource, especially for individuals, i.e., participants who were currently homeless, with resource-poor and unreliable environments. This trade-off was cultivated by some:

> *Soit que je [ne] parle plus, soit que je pète une coche, ou soit que je m'en vais.* (7F)

> *Mais, en général, je peux garder mon calme justement, attendre que je sois isolée puis si j'ai envie de comme laisser ça sortir, puis tout, ça. Des fois ça sort, des fois, ça [ne] sort pas, des fois je suis juste complètement neutre…* (3F)

Others articulated the associated costs:

> *Puis c'est pas bon faire ça là, mais oui, j'encaisse beaucoup, puis à un moment donné, ben, ça va être un petit truc qui va me faire péter une coche pour rien, mais bon. Mais ça [ne] sera pas pour rien, c'est parce que je vais trop avoir enduré…* (7F)

> *It's shutting down communication. Shutting down any response of happiness or sadness or anger, basically, just blank… Another day is going to pass. Away from the situation away from the anger, but also it brings disconnection from being happy too.* (5F)

For some participants dysregulated release, even if consequences were negative, was a more salient protective strategy:

> *C'est juste crier, un peu laisser sortir le méchant, là, je dirais… C'était pas vraiment personnel à elle. C'était vraiment moi qui avais besoin de sortir mes émotions […] un surplus d'émotions. [...] C'est souvent juste moi qui [ne] sais plus comment gérer mes émotions. Fait que, je les laisse sortir puis ça finit comme ça [agression psychologique].* (3F)

Resilience outcomes as recovery, adaptation, and transformation

As noted in both the navigation and negotiation processes, suppressing arousal until a later time or in a safe space was a common adaptation to arousal experiences:

> *… quand je suis en public avec le monde, je peux être vraiment très bonne comédienne, je peux te jouer ça aisément. Mais, toute seule, c'est toute une autre chose. C'est là que je suis vraiment vulnérable puis que tout sort.* (3F)

For some participants who were gaining skills in regulation, a transformation seemed in process:

> *When I passe à l'action, isn't a release. It's just like blow up and then like it's still there and like the release is like - it's like if I built up too much you know? - but when I talk about it and when I don't passe à l'action, it's just like instant, it's just like, "oh, you know? I made it."* (9F)

> *C'est pas quelque chose qui se fait seulement quand les situations arrivent. Je veux dire, c'est quelque chose qui demande de la pratique. Constamment, remettre en question tes actions. Constamment, penser aux répercussions que tes actions ont sur les autres. C'est entre autres, une façon d'être en mesure de contrôler qu'est-ce que tu fais et/ou contrôler ta façon de réagir quand la situation vient, tu comprends.* (10M)

For others, a lifetime of negative experiences inhibited their capacity to access resources and move towards recovery:

> *Ben, il est tellement arrivé de trucs que, pas bons dans ma vie, que des fois quand il arrive des trucs bons, mais je me rends pas jusqu'au bout par peur, parce que je me dis que ce n'est pas normal, genre.* (7M)

As one participant noted, positive adaptation, transformation, and recovery is often not as salient to observers in the youth's environment as is one instance of dysregulated behaviour:

> *Puis aussi, qu'est-ce qui me frustre, c'est quand, oui, je [ne] pète pas ma coche pendant une centaine de fois, mais qui se concentrent sur une fois que j'ai pété ma coche. C'est comme "man, tu [ne] peux pas voir que j'ai pas pété ma coche pendant cent fois […] tu te concentres sur cette situation-là?"* (16M)

Discussion

Resilience functions at all levels of biopsychosocial systems, including the microprocesses of individual-level stress responsivity of trauma-exposed youth featured in this research (Ungar, 2019; Wright et al., 2013). As resilience definitions shift to a biopsychosocial ecological process-oriented model centered on person-environment interactions, empirical evidence of the operationalization of conceptual advances is needed (Aldao, 2013; Masten, 2016; Ungar, 2019). Our deductive framework analysis (Gale et al., 2013) explored the presence of Ungar's (2019) three components of resilience (risk, PPFP, and outcomes) in data from qualitative interviews on affect regulation during arousal states with 16 family violence-exposed adolescents. Resilience processes were evident throughout the youth's descriptions, as were experiential manifestations of trauma and psychobiological mechanics of affect arousal. The heterogeneity of youth's descriptions demonstrates the valuable data gained by seeking qualitative experiential accounts of biopsychosocial processes to generate a holistic view of processes that are interactive by nature. These complex interactions are challenging to capture through quantitative measures alone (Rutter, 2012; Ungar, 2019). The adolescents' depictions of navigating hyper-/hypo-arousal states exemplified the interactive nature of precipitating stimuli (internal or external) with physical, emotional, and cognitive reactions that influenced regulation processes depicted in Figure 1. Awareness of physiological signals and emotion identification, two essential affect regulation skills (Althoff et al., 2010; Greenberg et al., 2017; Malhi et al., 2019), supported purposeful navigation. When participants' ability to think through what was happening was disrupted, they often experienced psychobiological dysregulation (Davidson et al., 2000; Ellis & Del Giudice, 2019; Raio et al., 2013). The youth emphasized the context-dependent adaptive nature of their strategies to self-regulate and the potential limitations as long-term solutions or applicability to other environments (e.g., Bonanno & Burton, 2013; Christensen & Aldao, 2015; Ellis & Del Giudice, 2019). Their descriptions demonstrate clearly that within the sample and within individuals, there is considerable variability in regulation capacity in ways that defy trait-like quantitative categorization (Ungar, 2019).

Adaptive regulation strategies often influenced participants' capacities to negotiate for protective and promotive resources (Grych et al., 2015; Ungar 2011, 2013). One of the most meaningful (Ungar, 2011) resources for these adolescents was their own internal capacity to calm physiological arousal and regain affect equilibrium when alone in a safe place. Participants acknowledged that the trade-off inhibited long-term positive functioning. Social support, a recognized resilience-promoting resource (Grych et al., 2015; Meng et al., 2018; Schriber & Guyer, 2016), was strikingly sparse in the data. All participants experienced family violence, and many were currently or formerly homeless, thus minimal supportive family connections were not unexpected (Grych et al., 2015; Ungar, 2015). Participants demonstrated awareness that regulation is a skill that can be learned and expressed optimism that they could increase their capacity to reduce dysregulation in the face of stress and perhaps not "lose it/péter une coche" as often. The data indicate a need for access to trauma-informed interventions (e.g., Collin-Vézina et al., 2018).

Our focus on individual experience elicited limited specific content regarding larger social systems' implications in resilience, a priority of Ungar's (2011, 2017, 2019) conceptualization. One participant remarked on the ongoing focus on behavioural outcomes of dysregulation with little attention paid to their many adaptive strategies to inhibit taking action in stressful situations. This observation highlights the importance of utilizing social-ecological models of resilience to provide resources that are relevant to the regulation needs of adolescents in high adversity environments to inform practice and policy (e.g., Ungar & Hadfield, 2019). Self-reliance and limited mention of social and professionals support suggests a need for comprehensive trauma-informed services to enrich the resilience of family violence-exposed youth (Blaustein & Kinniburgh, 2019; Collin-Vézina et al., 2018; Grych et al., 2015).

Limitations

Adolescent self-reports of affect regulation were retrospective, which may limit reliability. The study focused on states of high arousal only. Youth who "lose it/péter une coche" with hypo-arousal-related internalizing strategies may not have volunteered for the study given the focus on externalizing behaviours in youth contexts. All participants had experienced many forms of biopsychosocial adversity; our findings are not exclusively associated with family violence (e.g., Cyr et al., 2012).

Implications

Participants described in rich detail their resilience processes during arousal states in navigating and negotiating for affect regulation resources to be provided in meaningful ways while under stress. Many of the adaptations were in response to resource-poor or unreliable internal and external environments, echoing the concerns of resilience researchers that adaptation be understood in the context of a full biopsychosocial-ecological framework that does not prioritize or pathologize individual experience over systemic influence (e.g., Bonnano & Burton, 2013; Masten, 2016; Sameroff, 2010; Ungar, 2017, 2019). The short- and long-term impact of repression and delay of reactivity on optimal functioning from a biopsychosocial-ecological perspective merits more consideration longitudinally (Bonanno & Burton, 2013; Christensen & Aldao, 2015). Ungar's (2019) operationalization of resilience as processes is a useful lens for exploring affect regulation experiences of adolescents who have experienced high adversity.

Implications for practice

The study results are directly applicable to trauma-informed interventions designed to increase regulation capacity for complex trauma-exposed youth. Trauma-informed interventions target both youth's experiences and the systems implicated in their lives (e.g., Bailey et al., 2019; Fratto, 2016; Hanson & Lang, 2016; Milot, Lemieux et al., 2018). The Attachment, Self-Regulation, and Competency (ARC; Blaustein & Kinniburgh, 2019) framework is especially relevant given its focus on stress responsivity, adaptive regulation strategies, increasing social support, and building resilience, congruent with Ungar's (2011, 2013, 2019) definition. Trauma-informed interventions benefit from policy-level support to influence mezzo and macro systems in the social ecology within which youth and their families seek services (Hanson & Lang, 2016; Masten, 2016).

Directions for future research

Comprehensive biopsychosocial empirical evidence that endeavors to capture the full experience of a person in their environment in a process-focused manner is needed to provide meaningful support to adolescents throughout this crucial developmental stage prevent enduring biopsychosocial trauma (e.g., Althoff et al., 2012; Blaustein & Kinniburgh, 2019; Grych et al., 2015; Malhi et al., 2019; Masten, 2016; Ungar, 2017, 2019; Yoon et al., 2019). Ungar (2019) suggests utilizing mixed methods approaches that embrace the "messiness" needed to capture data on such an interactive transdisciplinary longitudinal construct without sacrificing coherence. The voices of adolescents living in adversity must be integrated via qualitative methods (i.e., phenomenology) to contextualize quantitative data to enhance a holistic understanding of resilience and affect regulation processes (Rutter, 2012; Willis & Cromby, 2020), as our results demonstrate.

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Conflict of interest

The author declares no conflict of interest.

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Appendix. Resilience and Adolescent Affect Regulation translations

Text	Translation
Des fois y'en parle avec les autres pour dire faut pas trop y aller genre trop serré avec moi, c'est sûr et certain que j'aime pas ça pis, des fois j'peux ben être gentil dans la vie, j'suis pas quelqu'un qui est comme méchant mais j'peux devenir méchant, si mettons si je veux là. (14M)	Sometimes he talks about it with other people to say don't get too upfront and personal with me, I don't like it too much for sure, and sometimes in my life I can be nice, I'm not someone who's mean but I can become mean, if, let's say, I wanted to. (14M)
…des fois, il y a des petites situations qui font que moi là, je vais capoter ma vie. Des fois, je le sens que j'ai envie de passer à l'action. (12F)	...sometimes there are small situations that make me feel like I'm going to freak out. Sometimes, I feel like I want to take action. (12F)
I've never had a really good relationship with Mom, so when reacting to what she does, it takes about 30 seconds for me to just not be able to handle it and just explode... Yeah, it's a reflex --because I've had so many bad situations with Mom…(5F)	Je n'ai jamais eu une très bonne relation avec Maman, alors quand je réagis à ce qu'elle fait, il me faut environ 30 secondes pour ne plus être capable de le gérer et pour exploser... Oui, c'est un réflexe - parce que j'ai vécu tellement de mauvaises situations avec Maman... (5F)
… quand qu'il y a l'autorité, je pense à mon beau-père. Mes boss, peu importe si sont vraiment fins avec moi, après deux, trois mois, je me tanne d'eux, pis j'vois juste le négatif chez eux […] Pis que, faut que j'sois professionnel pis je le suis pas donc je quitte par moi-même [...] Parce que j'ai tendance à considérer l'autorité comme mon beau-père. (13M)	...when there's authority, I think of my step-father. My bosses, no matter how nice they are to me, after two or three months, I get tired of them, and I just see the negative in them [...] And I have to be professional, and I'm not, so I decide to leave [...] Because I tend to think of authority as my step-father. (13M)
C'est comme si que j'ai passé une journée de merde, puis j'ai une situation de merde, ce qui s'en vient, je [ne] suis pas capable de gérer ça. (16M)	It's like I've had a shitty day, then I have a shitty situation, what comes next, I can't deal with it. (16M)
La dernière fois que j'ai failli péter ma coche était au travail. Le travail c'est un peu stressant en tant que tel, pis t'sais y'a tellement de monde qui parle autour de moi, qui ont besoin de quelque chose, s'ils me demandent plusieurs choses en même temps. Là j'pourrais pas là, c'est une chose qui me stresse le plus, pis on dirait que si je me retourne, c'est là qu'ils me demandent plusieurs choses en même temps mais t'sais j'peux pas me diffuser en quatre parties, j'tourne en bombe à retardement. (14M)	The last time I almost lost my temper was at work. Work is a bit stressful in and of itself, and then, you know, there are so many people talking around me, who need something, if they ask me several things at the same time. That, I couldn't do that, it's one of the things that stresses me out the most, and it seems that if I turn around, that's when they ask me several things at the same time, but then I can't split myself into four pieces, I turn into a time bomb. (14M)
… quand je pète ma coche, c'est un excès de pensées, c'est un excès d'émotions, c'est des choses inutiles. (4NB)	...when I lose it, it's an excess of thoughts, it's an excess of emotions, it's useless stuff. (4NB)
Mais quand je sens la colère là, c'est plus le sternum [qui] devient chaud bouillant pis j'ai l'impression que ça va juste sortir de la gorge. Sortir de la gorge, toute, j'ai envie de cracher, j'ai envie de crier, j'ai envie d'insulter t'sais. Ouin pis ma mâchoire, pis je deviens distordu, mon cou, toute le chest. (13M)	But when I feel anger, it's more like the sternum is getting boiling hot, and I get the feeling that it's just going to come out of the throat. It's going to come out of the throat, all of it, I feel like spitting, I feel like screaming, I feel like shouting insults, you know. Yeah, and my jaw, and then I get distorted, my neck, my whole chest. (13M)
So I get stomachaches; sometimes I puke, I'm so angry. Just grah! And vomit. (9F)	Alors j'ai des maux d'estomac, parfois je vomis, je suis tellement en colère. Juste grah ! Et je vomis. (9F)
But it's also feeling like your body is kind of limp at the same time, even though people around you don't see it. (5F)	Mais en même temps, c'est aussi l'impression que le corps est un peu mou, même si les gens autour de toi ne le voient pas. (5F)
…c'est sûrement quand je pète une coche [que] je peux être très silencieux.se (4NB)	...it's definitely when I lose it that I can become very quiet. (4NB)
J'ai toutes les émotions quand je suis fâchée […] je [ne] les gère pas ben là. (7F)	I feel all the emotions when I'm angry [...] I [don't] handle them well. (7F)
…[thoughts] will prevent me from sleeping, or I'll be doing my homework but half of my brain is like "what's the answer to the equation", and then like the other half of my brain is like "what the fucking…" (1F)	...[les pensées] m'empêcheront de dormir, ou je ferai mes devoirs mais la moitié de mon cerveau est comme "quelle est la réponse à l'équation", et puis genre l'autre moitié de mon cerveau est comme "c'est quoi ce fucking…" (1F)
…something happens and you have an emotion based on something happening. It's not like you ... you choose, yeah in some way you choose to let that affect you, but it's hard you know? Sometimes things just affect you like, I don't know, some things affect you more, some things affect you less, but it's all due to, like, a base, like, I don't know how to explain it. Like, at the source it's ... an emotion and then you think about it and you're like "oh, I could change that" but in the moment you go on like a reaction. Action, reaction, you know? (9F)	...quelque chose se passe et tu as une émotion basée sur quelque chose qui se passe. Ce n'est pas comme si tu ... tu choisis, oui, d'une certaine manière tu choisis de laisser cela t'affecter, mais c'est difficile, tu sais ? Parfois, les choses t'affectent juste comme, je ne sais pas, certaines choses t'affectent plus, certaines choses t'affectent moins, mais tout cela est dû à, comme, une base, comme, je ne sais pas comment l'expliquer. À la source, c'est… une émotion, puis on y pense et on se dit : "Oh, je pourrais changer ça," mais à ce moment, on réagit. Action, réaction, tu sais? (9F)

Text	Translation
… it's almost like when I lose it, I'm like allowing my negative emotion, probably anger let's say, like, consume me. Whereas when I don't lose it, then I'm like, no, I'm like in charge [laughs] and I'm able to kind of be like, "no, I don't want to feel you right now." … So it's easier to calm down, yeah. When I'm not losing it, I'm not allowing the feeling to consume me; I'm kind of just letting it pass. (1F)	... c'est presque comme si, quand je perdais mon calme, je laissais mon émotion négative, probablement la colère, disons, me consommer. Alors que quand je ne perds pas mon calme, c'est comme, non, c'est moi qui suis responsable [rit] et je suis capable d'être comme, "non, je ne veux pas te ressentir en ce moment." ... Donc c'est plus facile de se calmer, oui. Quand je ne perds pas mon calme, je ne laisse pas ce sentiment me consommer; je le laisse simplement passer. (1F)
…il y a quelque chose de plus gros que la colère, la frustration, la violence pour compenser ça, mais protéger en justifiant que c'est… c'est la force qui va gagner, t'sais, c'est la force. (2M)	...there's something bigger than anger, frustration, violence to make up for it, but to protect by justifying that it's... it's strength that's gonna win, you know, it's strength. (2M)
Ça veut dire j'ai gardé le contrôle, c'était… une belle victoire… pour moi personnellement […] je fais toujours des efforts pour arriver à avoir un contrôle de soi. (10M)	It means I stayed in control of myself, it was... a big win... for me personally...I'm always striving to achieve self-control. (10M)
Je fais juste m'isoler pendant un instant, puis je me mets un peu à jaser avec moi-même, genre, si c'est justifié comment je me sens ou comme si c'est juste moi qui justement a envie de péter une coche. Fait que, j'essaie de comme me parler voir pour me calmer. Puis des fois ça marche, des fois, ça [ne] marche pas. (3F)	I just isolate myself for a while, and then I start talking to myself a little bit, like, if how I feel is justified or if it's just me that just wants to lose my temper. So I'm trying to, like, talk to myself or something to calm myself down. Sometimes, it works; sometimes, it doesn't. (3F)
… je [ne] le fais jamais avec du monde alentour… c'est le flot d'émotions … qui se relâche, j'ai peur de faire mal à quelqu'un. Fait que je m'arrange pour être tout seul. Je décâlisse, […] je m'en vais dans un coin seul […] où je sens qu'on va me crisser la paix puis je relâche. (11M)	...I never do it with people around... it's the flood of emotions... that releases itself, I'm afraid of hurting someone. So I manage to be on my own. I take off, [...] I go to an isolated place [...] where I feel like others will leave me alone and then I let it go. (11M)
What always helps is talking to my dad. He's very logical. My mom's very emotional. So sometimes she's very emotionally supportive, other times it can be very negative. Whereas my dad's, like, well very logical so […] somehow that helps. (1F)	Ce qui aide toujours c'est de parler à mon père. Il est très logique. Ma mère est très émotive. Alors parfois elle me soutient émotionnellement, d'autres fois elle peut être très négative. Alors que mon père est très logique, donc [...] d'une certaine manière, ça aide. (1F)
[Ma meilleure amie] a su exactement quoi me dire pour pas que j'agisse .... C'était la bonne personne qui m'a dit les bonnes choses. (11M)	[My best friend] knew exactly what to tell me so I wouldn't take action.... She was the right person who told me the right things. (11M)
Puis il y a eu des situations où j'étais violent puis […] je voulais partir faire un 5 minutes pour dépomper pour pas que ça, ça arrive puis tu m'en empêches. C'est sûr que je vais péter une coche tabarnak. (16M)	Then there were situations where I was violent and then [...] I wanted to leave for a 5-minute break to calm down so that it doesn't, it happens and then you stop me. Of course I am going to lose my temper *tabarnak* (16M)
Beaucoup de… de personnes que je considère comme étant des proches, finalement, ben, ils mettent un couteau dans mon dos puis c'est juste très blessant parce que je sais pu comment gérer ça. (13M)	A lot of... a lot of people that I consider to be close, in the end, well, they put a knife in my back and it just hurts a lot because I don't know how to deal with it anymore. (13M)
I saw a therapist [… who] gave me a lot of strategies on managing certain feelings when they arrive, and recognizing them, and so, like, if I'm aware of them, then I can apply those strategies. If I'm not aware of them, then I'm just, like, lost. (1F)	J'ai vu un thérapeute [...qui] m'a donné beaucoup de stratégies pour gérer certains sentiments quand ils surviennent, et les reconnaître, et donc, si j'en suis consciente, alors je peux appliquer ces stratégies. Si je n'en suis pas consciente, alors je suis juste, disons, perdue. (1F)
It feels like I can't control, like, my urge to hurt and destroy and break things…situations where I'm so angry it's, like, overwhelming, I've broken [things] … I'll throw it, like, at a wall or at the floor, with [the] intention of breaking it to kind of release just the urge. (8F)	J'ai l'impression que je ne peux pas contrôler mon envie de blesser, de détruire et de casser des choses... des situations où je suis tellement en colère que c'est, genre, accablant, j'ai détruit [des choses]... Je les jette, genre, contre un mur ou par terre, avec l'intention de les détruire pour relâcher cette envie. (8F)
… quand je suis vraiment fâché, ça [ne] marche pas, t'sais. Je peux ben tourner en rond 500 milliards de fois puis sacrer ben raide, t'sais, à un moment donné, … faut que ça sorte là. (6M)	...when I'm really mad, it doesn't work, you know. I can go around in circles 500 billion times and swear, you know, at some point, ...it's gotta come out. (6M)
Soit que je [ne] parle plus, soit que je pète une coche, ou soit que je m'en vais. (7F)	Either I [don't] talk anymore, or I lose my temper, or I take off. (7F)
Mais, en général, je peux garder mon calme justement, attendre que je sois isolée puis si j'ai envie de comme laisser ça sortir, puis tout, ça. Des fois ça sort, des fois, ça [ne] sort pas, des fois je suis juste complètement neutre... (3F)	But, in general, I can in fact keep calm, wait until I'm alone and then if I feel like letting it all out, then all, that's it. Sometimes, it comes out, sometimes, it doesn't, sometimes I'm just completely neutral... (3F)
Puis c'est pas bon faire ça là, mais oui, j'encaisse beaucoup, puis à un moment donné, ben, ça va être un petit truc qui va me faire péter	And it's not good to do that, but yes, I'm storing up a lot, and at some point, it's going to be a little thing that's going to make me lose my

Text	Translation
une coche pour rien, mais bon. Mais ça [ne] sera pas pour rien, c'est parce que je vais trop avoir enduré… (7F)	temper for nothing, but hey. But it won't be for nothing, it's because I'll have endured too much... (7F)
It's shutting down communication. Shutting down any response of happiness or sadness or anger, basically, just blank… Another day is going to pass. Away from the situation - away from the anger, but also it brings disconnection from being happy too. (5F)	Ça étouffe la communication. Ça étouffe toute réaction de bonheur, de tristesse ou de colère, en gros, juste un blanc... Un autre jour va passer. À l'écart de la situation – à l'écart de la colère, mais cela entraîne aussi une déconnection de la joie. (5F)
C'est juste crier, un peu laisser sortir le méchant, là, je dirais… C'était pas vraiment personnel à elle. C'était vraiment moi qui avais besoin de sortir mes émotions […] un surplus d'émotions. [...] C'est souvent juste moi qui [ne] sais plus comment gérer mes émotions. Fait que, je les laisse sortir puis ça finit comme ça [agression psychologique]. (3F)	It's just yelling, kind of letting the bad guy out, I'd say... It wasn't really personal in relation to her. It was really me who needed to get my emotions out... a surplus of emotions. ...it's often just me who doesn't know how to deal with my emotions anymore. So, I let them out and then it ends up like this [psychological aggression]. (3F)
… quand je suis en public avec le monde, je peux être vraiment très bonne comédienne, je peux te jouer ça aisément. Mais, toute seule, c'est toute une autre chose. C'est là que je suis vraiment vulnérable puis que tout sort. (3F)	...when I'm out in public with people, I can be really good at humouring others, I can play that role for you easily. But, when I'm on my own, it's a whole other thing. That's when I'm really vulnerable and then everything comes out. (3F)
When I passe à l'action, isn't a release. It's just like blow up and then like it's still there and like the release is like --it's like if I built up too much you know? - but when I talk about it and when I don't passe à l'action, it's just like instant, it's just like, "oh, you know? I made it." (9F)	Quand je passe à l'action, ce n'est pas un défoulement. C'est juste comme si j'explosais, pis comme si c'est toujours là pis que le défoulement c'est comme... comme si j'en avais trop accumulé, t'sais ? - Mais quand j'en parle et que je ne passe pas à l'action, c'est comme instantané, c'est comme : "Oh, t'sais ? J'ai réussi." (9F)
C'est pas quelque chose qui se fait seulement quand les situations arrivent. Je veux dire, c'est quelque chose qui demande de la pratique. Constamment, remettre en question tes actions. Constamment, penser aux répercussions que tes actions ont sur les autres. C'est entre autres, une façon d'être en mesure de contrôler qu'est-ce que tu fais et/ou contrôler ta façon de réagir quand la situation vient, tu comprends. (10M)	It's not something that's only done when situations arise. I mean, it's something that takes practice. Constantly questioning your actions. Constantly thinking about the repercussions that your actions have on others. It's, among other things, a way of being able to control what you do and/or how you react when the situation arises, you understand. (10M)
Ben, il est tellement arrivé de trucs que, pas bons dans ma vie, que des fois quand il arrive des trucs bons, mais je [ne] me rends pas jusqu'au bout par peur, parce que je me dis que ce n'est pas normal, genre. (7M)	Well, so much bad stuff has happened in my life, that sometimes when good stuff happens, but I don't go through with it out of fear, because I think it's like not normal. (7M)
Puis aussi, qu'est-ce qui me frustre, c'est quand, oui, je [ne] pète pas ma coche pendant une centaine de fois, mais qui se concentrent sur une fois que j'ai pété ma coche. C'est comme « man, tu [ne] peux pas voir que j'ai pas pété ma coche pendant cent fois […] tu te concentres sur cette situation-là? » (16M)	Also, what frustrates me is when, yes, I don't lose my temper a hundred times, but they focus on the one time I lost it. It's like, "man, can't you see that I haven't lost it a hundred times...you're focusing on that one situation? » (16M)

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Adaptation of Trauma-Focused Cognitive Behavioural Therapy for cases of child sexual abuse with complex trauma: A clinical case illustration

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Abstract

Child sexual abuse is an important public health issue given its magnitude and the multiple associated consequences. The diversity of profiles in child victims of sexual abuse calls for a more personalized approach to treatment. Indeed, recent studies suggest that children display a variety of symptoms and that a subgroup of sexually abused children may present a profile of complex trauma. This article first presents a review of the scientific literature that positions Trauma-Focused Cognitive Behavioural Therapy (TF-CBT; Cohen et al., 2017) amongst the best practices to address trauma-related symptoms following child sexual abuse; whether it is co-occurring with other forms of violence or not. Various adaptations of TF-CBT therapy are proposed by the authors (Cohen et al., 2012) to treat children facing complex trauma. These adaptations are summarized and illustrated with the presentation of a clinical case involving two siblings from the same family.

Keywords: Child sexual abuse; complex trauma; therapy; case study.

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Introduction

Child sexual abuse (CSA) is a major public health issue with global prevalence estimates revealing that between 8% to 31% of girls and 3% to 17% of boys have been victims of sexual violence before the age of 18 (Barth et al., 2013). Reviews of the scholarly literature have highlighted the wide variety of consequences associated with CSA and the relevance of identifying factors associated with outcomes in order to design efficient interventions promoting recovery. Among such factors is the frequent co-occurrence of other forms of violence; which studies have commonly related to the presence of multiple factors of adversity in the sexually abused child's family environment (Assink et al., 2019). In fact, child victims of sexual abuse are identified as particularly vulnerable to further victimization in different contexts (Finkelhor et al., 2007), including peer victimization in school (Tremblay-Perreault et al., 2017), dating victimization (Hébert et al., 2017) and cyber-victimization (Hébert et al., 2016).

With regard to consequences, research over the past 30 years reveals that victims of CSA are likely to present with significant internalized disorders (symptoms of anxiety and depression, somatic disorders, withdrawn behavior) as well as externalized disorders (aggressive behavior, anger, conduct disorders) (Lewis et al., 2016). Their functioning in schools is also frequently hampered by impairments in attention and concentration as well as social difficulties (Blanchard-Dallaire & Hébert, 2014). Further, such consequences in victims exposed to multiple forms of violence have been described as exacerbated (Aho et al., 2016).

While a vast array of symptoms has been linked to CSA, for many authors, sexual abuse and its subsequent reactions are most consistent with the criteria for post-traumatic stress disorder (PTSD). Diagnostic criteria involve the individual experiencing an event that poses a serious threat in which he or she may have been seriously injured or threatened with death or serious injury, or that he or she is threatened or sexually abused. According to DSM-5, four groups of symptoms are evident: symptoms of intrusion, avoidance of trauma-related stimuli, negative impairment of cognition and mood, and marked changes in activation and responsiveness to the traumatic event (e.g., hypervigilance). However, as CSA victims are frequently exposed to other forms of violence, authors have argued that more chronic traumatic situations experienced at an early age could lead to developmental alterations that go well beyond symptoms of classic PTSD. Thus, the classic formulation of PTSD would fail to identify the constellation of difficulties experienced by children who were exposed to repetitive and chronic violence in an inadequate family environment (van der Kolk et al., 2009).

Complex trauma

The concept of complex trauma in children describes their exposure to traumatic events and the consequences of this exposure on their short- and long-term adaptation (Cook et al., 2003). Children may experience traumatic events involving parenting figures while being victims of other forms of abuse (e.g., sexual assault and witnessing domestic violence). As many children experience co-occurring abuse (Adams et al., 2016), empirical evidence suggests that polyvictimization may be the key element that predicts the intensity of symptoms, or even overshadow the influence of an isolated form of victimization (Finkelhor et al., 2007; Hodges et al. 2013).

Thus, multiple traumatic experiences, loss of sense of security and lack of comforting and supportive parenting figures may increase the risk of further trauma and deterioration in several areas beyond the classic symptoms of PTSD; alterations in relationships with others (e.g., social isolation, relationship difficulties, difficulties in relation to attachment), somatic regulation (e.g., medical problems, hypersensitivity, somatization), emotional regulation (e.g., difficulty recognizing and managing emotions), dissociation (e.g., alterations in states of consciousness), regulation of behaviour (e.g., poor impulse control, aggression), cognition (e.g., learning difficulties and deficits in the executive function) and self-concept (e.g., low self-esteem, feelings of guilt and shame).

This constellation of more complex symptomatology appears to be relevant to the clientele of sexually abused children. One recent analysis in fact identifies three distinct profiles including children showing symptoms of classic PTSD and children displaying a resilient profile (Hébert & Amédée, 2019). In addition, close to one out of four treatment-seeking sexually abused children are showing a third profile: very high classic PTSD symptoms as well as difficulties in several domains related to complex PTSD, including self-esteem difficulties, cognitive problems, difficulties in regulating emotions and behaviours, somatic symptoms, and symptoms of dissociation (Hébert & Amédée, 2019).

The existence of various profiles supports the idea that a continuum of interventions must be considered in order to adequately address the varied needs of children. Complex trauma in fact calls for a form of therapeutic

flexibility on the part of clinical teams that allows for individual adaptations to the specific, yet numerous current manifestations of trauma in the client's life.

The Trauma-Focused Cognitive Behavioural Approach

TF-CBT is described as a therapeutic approach that focuses on helping children and adolescents learn strategies and coping skills to overcome their traumatic experience and its consequences. "Trauma-focused" specifies that this therapeutic approach involves clearly addressing the occurrence of trauma, as well as the cognitions, sensations and emotions that are associated to its memory. Theoretically grounded in cognitive behavioral theory, this approach more specifically lies on learning theories; according to which the appearance of trauma symptoms can be explained by classical conditioning (Cohen et al., 2006); while operative conditioning (or instrumental learning) can reinforce maintenance of these symptoms and of various reactive behaviours. This therapeutic approach is composed of different modules to be addressed with both the child and his or her parent while planning an increasing number of joint sessions. Trauma reminders and consequences are addressed gradually, at different levels of intensity, depending on the child's and family's needs and capacity. While TF-CBT was initially elaborated in the mid 1980s with the combined works by Judith Cohen and Anthony Mannarino in Pittsburg and Esther Deblinger in New Jersey, at this time, there were no published studies addressing the efficacy of interventions for children who were exposed to traumatic experiences and for those suffering from PTSD. By the late 1990s, Cohen, Mannarino and Deblinger began publishing their first evaluative studies of these interventions, indicating in various samples of children and adolescents that they were evidenced-based (Cohen et al., 2004; Cohen & Mannarino, 1998). In 2006, they published their treatment manual: Treating Trauma and Traumatic Grief in Children and Adolescents (Cohen et al., 2006). As research documented the occurrence of complex trauma in children and adolescents, Cohen and her colleagues (2012) proposed an adaptation to complex trauma for TF-CBT that allows to consider the particular challenges of this clientele.

The following section summarizes the efficacy of TF-CBT with children who have been exposed to multiple forms of violence or with children who, in addition to being exposed to multiple victimization, also present a complex trauma profile (i.e., issues in various spheres of adaptation). Then, considering that there may be practical concerns with the applicability of TF-CBT to children and adolescents with a complex trauma profile, the adaptations proposed by Cohen and her colleagues (2012) are summarized, described and discussed with case studies of child victims of CSA.

Effectiveness of TF-CBT with particular cases

While there are a multitude of evaluative studies on TF-CBT (see for e.g., Runyon et al., 2019), this section highlights studies that have offered information regarding multiple traumas experienced by participants. Since complex trauma is not yet a recognized formal diagnosis in the DSM 5, the way in which it is conceptualized can vary from one study to another. Hence, the few available studies have mainly explored the effects of TF-CBT in children who have experienced several potentially traumatic events, but not necessarily presenting a complex trauma profile.

In one of their evaluative studies of TF-CBT, Cohen and her colleagues (2004) report that children who participated had experienced, on average, 3.6 types of trauma (e.g., exposure to intimate partner violence, physical abuse, mourning). For the authors, this indicates that TF-CBT is associated with positive effects, even in cases where several types of trauma are present. A study led by Jensen and colleagues (2014) evaluated the effectiveness of TF-CBT in a community setting compared with treatment-as-usual (TAU) as a comparison group with youth aged 10 to 18 randomly assigned to the two conditions. On average, participants were exposed to 3.6 traumas including the sudden death or serious illness of a loved one, threats or violence outside of the family context, and physical violence by a family member or sexual abuse. Results showed that TF-CBT was more effective than TAU in reducing symptoms of post-traumatic stress and depression and improving overall mental health. A subsequent study (Jensen et al., 2017) revealed that improvements were maintained in an 18-month follow-up. Bartlett and colleagues (Bartlett et al., 2018) contrasted outcomes of child welfare involved youth following their participation in either TF-CBT, Attachment, Self-Regulation, and Competency (ARC) or Child-Parent Psychotherapy (CPP). Authors reported optimal benefits for youth who received TF-CBT or ARC. As in other studies, TF-CBT was found to be associated with a significant reduction in PTSD symptoms evaluated by self-reports and parent/caregiver reports and behavior problems, as well as an increase of the child's strengths as evaluated by the Child and Adolescent Needs and Strengths - Mental Health (Lyons et al., 1999). Participants reported experiencing a mean of 5.2 types of trauma (different forms of child maltreatment by caregivers, war/terrorism, bereavement, natural disaster, medical illness, serious injury, etc.) again suggesting that TF-CBT is efficient in helping children even if they have been exposed to multiple traumas. Similar conclusions were reached in studies conducted in developing countries with samples of children and adolescents exposed to extremely

difficult and multiple situations. Culturally adapted versions of TF-CBT allowed to significantly reduce the severity of trauma symptoms in youth exposed to violence towards a family member, victims of sexual exploitation, or former child soldiers, reporting experiencing up to 12 different types of trauma (McMullen et al., 2013; Murray et al., 2013; O'Callaghan et al., 2013).

Few published studies have analyzed the effects of TF-CBT by considering not only the multiplicity of traumas experienced, but also the complexity of the symptoms among participants. In one study conducted by Weiner, Schneider and Lyons (2009), the complexity of trauma symptoms was operationalized using the Child and Adolescent Needs and Strengths (CANS; Lyons, 2004). In addition to having had a moderate to severe traumatic experience, participants had to demonstrate difficulties adjusting to trauma, as measured by a score of 2 or 3 on the CANS "trauma adjustment" subscale. TF-CBT was effective in reducing traumatic symptoms in youth. Furthermore, participation in TF-CBT also improved the adaptation of youth dealing with complex traumatic symptoms and increased certain skills, as assessed by the CANS "strengths" subscale.

Sachser, Keller and Goldberg (2016) used the diagnostic criteria proposed by the International Classification of Diseases (ICD-11) to identify and distinguish PTSD and a profile more closely related to complex trauma. A latent class analysis identified the two expected profiles: a first group of children presenting the most classic symptoms of PTSD and a second group presenting in addition, symptoms reflecting dysfunctions on the level of emotion regulation, self-concept and interpersonal relationships. The authors then contrasted the evolution of participants undergoing therapy (n = 38 for PTSD class and n = 23 for the Complex trauma class). Results revealed a significant reduction of PTSD symptoms both in participants in the PTSD group and those with a complex trauma profile. In addition, TF-CBT was efficient in reducing impairment in domain characteristics of Complex PTSD (i.e., emotion dysregulation, interpersonal problems and self-concept) in children from the Complex trauma class.

The TF-CBT approach has been adapted and implemented at the Marie-Vincent Foundation (a Child Advocacy Center) in Montreal, Quebec, a centre that offers services to child and adolescent victims of sexual abuse. The effectiveness studies on the adaptation of TF-CBT in Quebec were conducted with a sample of preschool children (Hébert & Daignault, 2015) and with a sample of children aged 6 to 12 (Hébert & Tourigny, 2015). Findings showed significant effects in reducing symptoms of dissociation, internalizing and externalizing behavior problems in preschool and school-aged children. For the latter group, other outcomes assessed revealed an improvement in children's post-traumatic stress symptoms, self-esteem and feelings of guilt. More than half (55%) of the sample of school-aged children experienced more than four traumatic events other than sexual abuse that motivated their request for services. An analysis contrasting the evolution of symptom reduction in children reporting more than four traumas revealed no significant differences in comparison to children with fewer than four traumas. These results suggest that TF-CBT is associated with similar benefits for youth exposed to multiple traumas. In a replication of the study conducted by Sachser et al. (2016), TF-CBT was found to be effective in sustaining recovery even in children presenting with a profile akin to complex PTSD profile (Hébert & Amédée, submitted). The following case study will illustrate the different adaptations of TF-CBT proposed by Cohen et al. (2012).

Case study presentations and adaptations of TF-CBT (Cohen et al., 2012)

The case study was inspired from the clinical caseload of therapists working within the Marie-Vincent Foundation. Personal and factual information were modified to ensure confidentiality.

Lisa, an 11-year-old girl, and Jacob, her 8-year-old brother, grew up with their maternal grandparents. Their father is unknown, and their mother has been unable to provide for their security and development. The environment in which they grew up is characterized by poverty and significant social isolation. Throughout their childhood with their grandparents, the grandfather was suffering from alcoholism and they were exposed to violence in many forms. Their trauma history includes witnessing family violence, being victims of psychological abuse and neglect, as well as severe and frequent physical abuse. Lisa and Jacob were also victims of very severe, frequent and chronic sexual abuse, including exposure to pornography, and they also witnessed each other's abuse. Outside of the home, the siblings were also victims of school bullying in relation to hygiene issues. During the unveiling of the sexual abuse, the children experienced major disturbances. They were first placed in foster care, then moved with their biological mother who has built a second family; hence the reconstruction of the mother-child bond to Jacob and Lisa being an important issue. As they have evolved for years in an environment poorly suited to their needs and having been confronted with many adverse experiences compromising their security and development, both Lisa and Jacob present a worrying

symptomatic picture, that considering their history of trauma, also mirror the various domains affected in cases of complex trauma.

Lisa (11 years old) is in a constant search for attention and affection. She is impressionable, wants to be loved at all costs and often presents with seductive behaviours (e.g., dance, sexualized poses). She has some memories of the time she lived with her mother, which contributes to her feeling of abandonment. Social situations are difficult for her as she experiences frequent conflicts, rejection, bullying at school as well as on the social network. She is also struggling academically; she has little concentration and trouble with organization and perseverance. She manifests a great need to talk about the various traumas she has experienced, especially the sexual abuse. She does not target the right people to confide in, which leads to further stigmatization. She presents with very severe PTSD symptoms including intrusive and painful reexperiencing symptoms and dissociation. All domains of complex trauma are affected.

As for Jacob (8 years old), it is difficult to gain access to what he thinks or feels. He is described as a boy who stares for long periods of time. He rarely manifests sadness or distress and shows little reaction. On the other hand, he presents with externalized behaviours. He is often in opposition, he does not listen to instructions or ignores them, he is rude and often reacts aggressively. He presents with low self-esteem, receives little appreciation or attention and is described as the "black sheep" of the family. He reports feeling rejected. He is very impulsive and reckless, adopts risky behaviours and seems completely unaware of the potential surrounding dangers. He has experienced serious falls or injuries; his body is constantly covered in bruises with no memories or explanations of how he sustained such injuries. He reports having intrusive thoughts related to self-harm. Jacob also presents with sexual behaviours (verbalizations of a sexual nature, rubbing one's sexual parts on objects, sound with a sexual connotation). He has great social difficulties. He describes having no friends, being laughed at, being in conflict with others and evokes that no one showed up to his birthday party. He is described as having few social skills and as being unable to decode social situations. Academically, he is experiencing failures and forgetfulness. Teachers describe that he lacks learning availability despite good intellectual potential and that he is often regressed. He also presents with very severe PTSD symptoms including dissociation. All domains of complex trauma are affected.

In describing their proposed adaptation to children with complex trauma, Cohen and her colleagues (2012) argue that similarly to other treatment programs elaborated for complex trauma (Ford & Courtois, 2009; Lanktree & Briere, 2017), the components of intervention of the standard TF-CBT are phase-based. In the following section, each of the phases is first described generally, followed by the presentation of adaptations that may be integrated within each phase of the clinical illustrated.

The first part of the therapeutic process comprises a **"stabilization phase".** It involves acquiring coping strategies for regulating emotions and managing the frequent neurobiological effects of trauma that are associated with being exposed to chronic stress. It thus includes developing an understanding of traumatic reactions and identifying and recognizing emotional states and thoughts in relation to trauma reminders. More specifically, during this first phase, TF-CBT components include psychoeducation and acquiring knowledge and skills to enhance safety and help parents develop parenting skills using relaxation methods and cognitive and affective modulation skills. The second part of the therapy is the **"trauma processing"** phase; which can also include in vivo mastery of trauma reminders. The trauma processing phase is conditional to first acquiring some degree of coping skills acquired within the stabilization phase. It involves gradual exposure to trauma reminders and anxiety-provoking situations through a creative process (for e.g., writing a story, a play, a song, a poem about various aspects of the trauma), restructuring erroneous or harmful thoughts and acquiring problem-solving strategies. The third phase is described as an **"integration phase".** The TF-CBT components addressed within this last phase include conjoint child and parent sessions to facilitate communication, enhancing safety skills and future development and addressing traumatic grief. More specifically self-regulation skills are consolidated and generalized to various situations and self-protection and assertiveness abilities are exercised. Parents are accompanied so that they can support their child during the therapeutic process in developing effective communication and management of difficult behaviours and in addressing future issues such as sexual education.

In adapting TF-CBT to youth with a complex trauma trajectory, Cohen et al. (2012) formulated recommendations; which we have summarized into five main adaptations, that are integrated within each phase.

Phase I - Stabilization phase

1. Extend the stabilization phase (establishing a secure therapeutic relationship; identifying, expressing and regulating emotions).
2. Allocate more time and vigilance to notions of security both within and outside of the therapeutic relationship (extended parenting/caretaker support).

Concerning the stabilization phase of therapy, Cohen et al. (2012) recommend extending this first phase of the therapeutic process compared to what would be advised for a single trauma; specifying that as much as 50% of the therapeutic process could be dedicated to this phase. In many respects, adapting TF-CBT to complex trauma is a question of timing and dosing the therapeutic steps and processes to the rhythm and capacity of the child. A clinical comprehension is only accessible to the therapist in the context of a safe, empathic, and honest therapeutic relationship and with the collaboration of a parent/caretaker support system. While attributing more time to reach the objectives of this phase often prolongs the therapy, it has three advantages: a) allows children to reach a feeling of security within the therapeutic relationship; b) which also allows children to open up regarding remaining feelings of fear and uncertainty at the beginning of the intervention and through the therapeutic process; c) allows more time to develop and practice coping and self-regulation while carefully monitoring and "calibrating" distress tolerance in the child and caregiver.

The stabilization phase for Jacob. For Jacob, the context and nature of the therapeutic relationship seemed to be perceived as threatening. Thus, his therapist had to gradually expose Jacob to the idea of trusting again, but this time in the context of a safe and predictable relationship. For children like Jacob, feeling safe again may involve learning about how the brain has a tendency to generalize fear responses for survival, and to distinguish unreal from real dangers and situations. While Jacob's coping skills for reacting to real dangers were over-developed (e.g., being distrustful, oppositional or rude), those for recognizing and making good use of safe situations remained a challenge. This was reflected to him in order for Jacob to develop social awareness, to appease some distress and learn to benefit from the safe situations he experiences. Jacob also developed at-risk behaviours that may have helped him feel more control over his fears. Yet, this process had to be addressed in order to help Jacob learn self-calming or suiting behaviours to replace those that were putting him at risk. In Jacob's case, another strategy that helped establish a bond of trust included following a strict therapeutic routine that became predictable and thus promoted a feeling of security. Feeling safe in various contexts also involved developing Jacob's social adaptation in different situations. Learning to identify and recognize emotions more efficiently is often a prerequisite for self-regulation in social situations, as it was the case for Jacob. Yet, for some children like Jacob, a certain detachment or a limited sense of self-awareness proved to be an important survival strategy, especially when violence was experienced on a recurring basis. Again, Jacob needed to differentiate real from anticipated dangers and to practice using appropriate strategies in social contexts. The following summary box presents a list of additional strategies that may be used with both Lisa and Jacob during the first phase of therapy.

Other family-oriented strategies that may be integrated for Lisa and Jacob

- The first session with Lisa and Jacob could take place in their current living environment for their mother to model trust toward the therapist and transparency.
- After obtaining children's approval to share a specific information with the mother, the therapist should be very transparent in the exchange of information concerning the children (with whom the therapist speaks, meets, etc.) in order to foster a feeling of trust and control.
- Promote the participation of the mother by planning an increasing number of joint sessions to help consolidate a relationship that is based on security, understanding, trust and respect.
- Increase the mother's sensibility to the needs expressed by the problematic behavior of Jacob as he is often perceived as being oppositional and provocative (modulate the mother's perception so that she sees Jacob's difficulties as being possibly associated with distress and with the difficult experiences of his early childhood).

Other individual therapeutic strategies that may be integrated for Lisa and Jacob

- Plan shorter therapy sessions for their first meetings and make the session plan accessible and predictable for the children in order to establish a routine, reassure them on the themes addressed and allow them to make choices.
- Establish coherent intervention/messages/strategies in the various living environments of the children (home, school, therapy, etc.).
- Dedicate several sessions to the development of self-regulatory strategies by referring to situations that have occurred during the week.
- To facilitate the acquisition of grounding skills, adapt relaxation strategies to more physically based exercises (e.g., yoga, dance) rather than meditation or visualization.
- Use the situations that arose during meetings with the therapist to do "modelling" in relation to self-regulatory strategies.
- Be attentive to Lisa and Jacob's non-verbal reactions, help them recognize their reactions, emotions and thoughts, normalize them and help them feel better.
- For Jacob, develop other means of communication/exchange (e.g., pointing, choice of answers, puppets).
- Help Lisa recognize and identify her need for attention and affection and identify a significant adult she can refer to in different settings to limit the occurrence of risky behaviours that increase the risk of victimization or her feelings of fear.

Phase II - Trauma processing phase

1. Assign more time to proceed with a slow rhythm for the gradual exposure to traumatic memories (allowing time to associate trauma reminders to emotions).
2. Address traumatic memories by regrouping experiences into relational themes (e.g., feeling unsafe in a relationship, feeling afraid, betrayed, abandoned, different from the others).

Beginning the trauma processing phase requires for children to use acquired strategies to tolerate distress and self-regulate. Hence, before beginning gradual exposure to memories or trauma reminders, it is advised to monitor the actual sense of security of the child, of his or her level of distress and of his or her degree of preparedness. Addressing complex trauma memory entails to leave more time devoted to understanding feelings in relation to memories. For instance, it may require leaving more room to the daily manifestations of trauma reminders or of trauma consequences than to specific souvenirs that are consciously addressed by soliciting memory. The rational for classifying trauma souvenirs into themes is that memories of multiple traumas are often fragmented and not related to specific events or moments in time in the child's memory. Further, victims of complex trauma often describe multiple trauma reminders that can arise anywhere and anytime. Thus, handling such distressing experiences by grouping them may make the task appear more manageable. Further, in comparison to standard gradual exposure strategies, this approach allows to avoid asking children to choose which of their traumatic experiences is most important or distressful to them to establish an exposure hierarchy. A task, which in itself, is most probably extremely confusing and in many instances inconceivable.

The trauma processing phase for Lisa. Lisa presented as overwhelmed by some of her traumatic memories; as she shared them with anyone and in inappropriate times. Thus, the second phase of TF-CBT was a good opportunity for Lisa to understand the rationale of gradual exposure, as a process that should take place in the context of a safe and trusting relationship; so that this context can help Lisa's brain integrate the experience differently, in a way that would allow her to distance herself from the experience. The intent was to help Lisa choose more appropriate times to share her experiences and to persevere in this particular task by making use of the self-regulatory strategies that she had learned to control her reactions, whether they are physiological, cognitive, emotional or behavioral.

In the standard TF-CBT model, for time-managing matters, clinicians are encouraged not to invest too much time in what is described as "the crises of the week", that is to say everyday events that children may address at the start of the sessions and which are not directly related to the therapeutic objectives sought. In the present case, as Lisa was struggling with issues of abandonment and social rejection, her day-to-day social challenges at school were voluntarily addressed to bring up everyday manifestations of trauma and again encourage use of different self-regulatory strategies that may help to ease her current social interactions. Regarding trauma processing, it helped Lisa

to slowly address her traumas by themes; such as feeling abandoned as it helped her to begin to break down the steps and to categorize what she was feeling; giving her a sense of recognition and control. Further, as the various themes were addressed, her memories, their reminders and her current struggles were perceived in a more integrated manner. The following summary box presents a list of additional strategies that may be used with both Lisa and Jacob during the second phase of therapy.

Other intervention strategies that may be implemented with Lisa and Jacob

- Use more general, less personalized discourse to help Lisa and Jacob normalize certain thoughts, emotions, reactions. E.g., "It often happens that other children who have experienced sexual abuse ..."
- Make sure to frequently assess the level of distress and the symptoms/difficulties that can be activated by the exposure to traumatic memories.
- Address the subject of Jacob's sexual abuse and other traumas through puppetry.
- Take advantage of other opportunities, less threatening for Jacob, to address themes related to sexual abuse. For example, it was less threatening to speak of sexual behaviours occurring at home than to speak of sexual abuse and other traumas. It created a breach to approach the different types of touches and secrets, and to make the link with the other traumas.
- Adapt the form of the "narrative" and lower expectations about its content.

Phase III - Integration of trauma phase

1. Attributing more time and importance to the notion of traumatic grief and planning more time to end the therapeutic process.

This last phase of the therapeutic process involves communicating about trauma to the parent/caregiver; thereby "testing out" and strengthening the trust relationship with that person. The integration phase thus aims to help children consolidate and generalize what they have learned and acquired as coping mechanism to deal with trauma and to more generally open up to the possibility of trusting again. In this third phase of the therapeutic process, as the parent or caregiver is cognitively and emotionally available, the last step of trauma processing involves for the child to share a part of his experience with a parent. As the joint sessions become more frequent throughout the therapeutic process, uniting the child and caregiver make it possible to discuss the traumas and its remaining consequences together, within a different perspective and that allows to foresee a different future.

The integration phase for Lisa and Jacob. Strengthening the relationship with Lisa's and Jacob's mother was an important challenge. The mother felt overwhelmed by her children's behavior and discipline problems and maintained a rejecting discourse arguing that she has limited time to devote to her children. As this last phase of the therapeutic process also aims to assist the child in the development of a behavioral mode that allows him or her to maintain a feeling of security (e.g., gradually communicating emotions, asking for help and support when necessary, making good relationship choices); it was important to develop a larger support network for the children within the children's environment (e.g., school, extended family, child protection) The caretakers were hence involved in some phases of the therapeutic process. Further, for both Lisa and Jacob the state of their relationship with their mother involved a certain process of mourning that needed to be addressed in the context of individual therapy by asking children to express their feelings about their griefs. The therapists also scheduled a joint sibling session in which they were asked to make a list of elements that they can rely on their mother for support; and a list of other supportive adults on which they can rely for other needs that their mother may not be in a position to meet at this time. For both children, but especially for Lisa, it was also essential to carefully plan the end of the therapeutic process which can also bring back feelings of loss and abandonment. The last summary box presents a list of additional strategies that may be used with both Lisa and Jacob during this last phase of therapy.

Other intervention strategies that may be integrated with Lisa and Jacob

- Prepare Lisa and Jacob for the end of the therapeutic process in a collaborative way. The goal is to have them experience a positive ending in the context of the therapeutic relation, a success instead of a repetition of the traumas in the context of previous relationships or a relational loss.
- Use the last therapy sessions to help the children build a toolbox, in which they can place images or objects representing all the strategies developed during therapy.
- Space the last therapy meetings.
- Schedule a meeting with all the other professionals involved with Lisa and Jacob in order to ensure continuity in the interventions (by making them aware of the meeting and the content discussed, as well as future references and objectives).

Conclusion

This article outlined the diversity of profiles in child victims of sexual abuse and its possible association to complex trauma symptomatology. The evolution of our understanding of complex trauma has led to the adaptation of evidence-based therapeutic approaches, such as TF-CBT of which the efficacy has also been supported in recent studies with victims of CSA. Our sibling case illustration has provided tangible examples of how TF-CBT can be adapted to the precise needs of Jacob and Lisa and outlined specific challenges that are often met with this clientele. Future research should hence continue documenting the outcomes of clinical adaptations for children exposed to complex trauma.

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Conflict of interest

The authors have no conflict of interest to disclose.

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Implementing trauma-informed care through social innovation in child welfare residential treatment centres serving elementary school children

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Abstract

Objectives: This article presents the theoretical basis, initial deployment strategies, and resulting preliminary findings of a program implemented in residential treatment centres (RCs) in child welfare. "Program Penguin" aimed to help workers develop trauma-informed attitudes and implement trauma-informed practices, make the workplace more responsive to the well-being of RC workers, and reduce the use of restraints and seclusion among school-aged children in RCs.

Methods: Informed by the theories of complex trauma (National Child Traumatic Stress Network Complex Trauma Task Force, 2003), polyvicitimization (Finkelhor et al., 2007), Attachment, Self-Regulation and Competency (ARC; Blaustein & Kinniburgh, 2018) and Positive Behavioural Interventions and Supports (PBIS; Sugai & Horner, 2002), Program Penguin was developed and deployed using the social innovation approach (Fixsen et al. 2005). The key stages of social innovation will here be used to describe the implementation process.

Results: Changes in practices were observed, RC worker attitudes towards trauma-informed care were assessed and showed strong effects between multiple covariables. RC worker support needs were identified, and a reduction in the use of restraints and seclusions was shown. Key strategies towards the development and maintenance of buy-in and meaningful change in practices are also described.

Implications: Changes observed at all levels of this implementation suggest Programme Penguin is a promising approach, despite local issues that arose and the challenges inherent to program deployment within child protection settings. It appears a trauma-informed program using positive behavioural approaches and leveraging existing organizational strengths may impact intervention strategies, worker attitudes, and the use of restraints and seclusions against children in RCs.

Keywords: Residential treatment centres; complex trauma; trauma-informed care; implementation; social innovation.

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Introduction

The majority of children living in residential treatment centres under child protective or youth offender mandates have faced multiple forms of hardship, including abuse, separations from significant and caregiving relationships, abandonment or repeated displacements (Collin-Vézina et al., 2011; Hodgdon et al., 2013; Hummer et al., 2010). These traumatic experiences have consequences that can take the form of significant interpersonal difficulties, including aggressive and oppositional behaviour (Cook et al., 2005; D'Andrea et al., 2012). The complexity of how children with such challenges present in residential treatment centres can lead residential childcare workers to experience feelings of helplessness, stress, fatigue and a lack of understanding (Bloom, 2005; Geoffrion & Ouellet, 2013), and increase the risk of interventions aimed at behavioural symptoms rather than root causes (Becker-Blease, 2017; Hodgdon et al., 2013). However, addressing challenging behaviours without a sensitivity to the potential influence of previous traumatic experiences can lead to post-traumatic stress among children in residential treatment centres (Ryan et al., 2006). Trauma-informed care (TIC) has been proposed as a means to create the secure relational contexts children need to overcome the impacts of traumatic experience (Bloom, 2005; Milne & Collin-Vézina, 2015; Plumb et al., 2016).

Complex trauma exposure and polyvictimization: Prevalence, severity, and consequences

In the early 1990s, research on children who were chronically exposed to maltreatment showed that the diagnostic lens of post-traumatic stress disorder (PTSD) was inadequate to capture the complexity of their clinical portraits, and only partially reflected the negative aftereffects of their experiences (Milot et al., 2018b; Spinazzola et al., 2005). Researchers thus elaborated the concept of complex trauma based on criteria that are distinct from those of PTSD:

a) The child's exposure to traumatic experiences (such as abuse, neglect, violence including other potentially developmentally harmful experiences such as war or community violence) is repetitive and chronic;
b) These experiences are perpetrated in the context of caregiving relationships;
c) These experiences occur during vulnerable developmental periods (cognitively, psychologically and biologically) when the child has few coherent or effective strategies with which to respond (Cook et al., 2005; Milot et al., 2018a; van der Kolk, 2003).

Research has demonstrated that the total load of all exposures to potentially traumatic experiences, termed polyvictimization, can also contribute to post-traumatic stress among children (Turner et al., 2010). From here, complex trauma will be used as an umbrella term that includes polyvictimization.

Children placed in residential treatment centres show elevated prevalence rates and severity of exposure to potentially traumatic experiences. Indeed, whether in the Midwestern United States (Brady & Caraway, 2002) or Québec, Canada (Collin-Vézina et al., 2011) the majority of children placed in residential treatment centres were reported to youth protective services because of maltreatment such as negligence, exposure to domestic violence, or physical, sexual or psychological abuse. Further, by adolescence only 2% of girls and 3% of boys placed in residential treatment centres under youth justice mandates had no reported adverse childhood experiences (Baglivio & Epps, 2016). In terms of severity, Greeson and colleagues' study (2011) of 2,251 American children in the Child Welfare System showed that more than 70.4% of the sample had had two types of traumatic experiences, while 11.7% had suffered all five types of maltreatment measured. Collin-Vézina and colleagues' study (2011) of 53 adolescents in residential treatment centre showed that approximately 76% of the children had had more than two types of traumatic experiences and approximately 19% had experienced all five types. While Brady and Caraway (2002) studied different types of traumatic experiences, they reported similar results in their study of 41 children aged 6 to 12 living in residential treatment centres. The authors noted that nearly 87.8% of their sample had had at least two traumatic experiences, and 10.5% had experienced five types of maltreatment. The rates and amounts of traumatic experience among children placed in residential treatment centres are staggering (Fischer et al., 2016; Pane Seifert et al., 2015).

Multiple studies have demonstrated an array of negative consequences on multiple developmental areas linked to repeated exposure to traumatic experiences (Cook et al., 2005; Gregorowski & Seedat, 2013). These effects can include reduced volume of the prefrontal cortex, amygdala, and hippocampus (van der Kolk, 2003); significant impairments in executive functioning (Kavanaugh et al., 2017; Perry, 2007); insecure attachment (Pearlman & Courtois, 2005); difficulty expressing and identifying emotions (Pollak et al., 2000); difficulty with impulse control (Cook et al., 2005); dissociation (Collin-Vézina et al., 2011); behavioural issues (Benjet et al., 2010); and a negative self-image (Kim & Cicchetti, 2006). Children who had experienced several forms of maltreatment showed a greater number of symptoms

(Kisiel et al., 2009) and were more likely to meet clinical thresholds for conditions such as depression, PTSD, and dissociation (Collin-Vézina et al., 2011). Indeed, children living in residential treatment centres have been shown to have greater functional impairment than those who do not live in residential treatment centres (Briggs et al., 2012; Ko et al., 2008).

Residential treatment centres & trauma-informed care

The purpose of this article is to present the theoretical underpinnings, implementation strategies, and preliminary observations related to Program Penguin, which aimed to improve residential treatment centre practices within child protection services. There was a pressing need to address practices in residential treatment centres. The 2013–2016 statistics for Québec's Integrated (University) Health and Social Services centre network showed that the use of restraint measures was continuously increasing (Noël et al., 2017). Restraints (by physical force or chemical substance) and seclusion (or isolation), as a means of control, can be used only in exceptional circumstances and only to prevent a person from inflicting harm upon themselves or others (Légis Québec, 2020). Although these practices are effective in reducing risks in some circumstances, negative effects can occur, including harm to helping relationships, increases in antisocial behaviours (Oehlberg, 2008; Sugai & Horner, 2002), and the creation of additional traumatic triggers for children (Bloom, 2005). Current statistics suggest that residential childcare workers are increasingly unable to calm children before potentially harsh reactive measures are necessary (Hodgdon et al., 2013). It may be that a lack of specialized knowledge and training about the impacts of traumatic experiences on children, exacerbated by the stress and fatigue endemic in residential treatment centre work (Bloom, 2005), result in "reactive" or "controlling" interventions such as restraints and seclusion (LeBel et al., 2010; Roy et al., 2019). Residential childcare workers, their supervisors and managers require support to be the constantly present, caring adults shown to facilitate child development in the wake of traumatic experience (Blaustein & Kinniburgh, 2018; Brend & Sprang, 2020).

TIC proposes a new way of conceptualizing services provided to children impacted by complex trauma. The usual way of understanding and intervening with this clientele is transformed from treating a "disorder" or "illness" to interpreting children's behaviour as adaptive survival responses to their traumatic experiences (Oehlberg, 2008). It centres on skill acquisition and relationship management (Hansberry, 2016) and grounds interventions in collaboration and understanding of the traumatic roots of challenging behaviours. Given their role as caregivers, residential childcare workers are ideally placed to provide the necessary conditions for these children to overcome the impacts of their traumatic life experiences (Bryson et al., 2017; Geoffrion & Ouellet, 2013; Tidwell, 2008). The introduction of TIC into residential treatment centres presents an opportunity to better leverage existing caregiving roles to address the effects of child trauma.

TIC offers strategies to integrate prevention within organizational functioning. For example, strategies to avoid reactivating children's trauma-related stress and protect residential childcare workers from secondary traumatic stress are proposed at the organizational level (Bloom, 2005; Elliott et al., 2005). This demonstrates how trauma-informed organizations are responsive to both the well-being of professionals and the children they serve. TIC is indicated for both children in residential treatment centre placement and the professionals who care for them (Brend & Sprang, 2020). For the implementation of TIC to be successful, organizations need to institute policies, procedures and practices that make their setting safe and promote positive interactions with children (Becker-Blease, 2017; Bryson et al., 2017; Gregorowski & Seedat, 2013; Jennings, 2004; Plumb et al., 2016). Protecting residential childcare workers promotes their capacity to be attuned to the needs of the children in their care, including secure caregiving relationships with emotionally regulated adults (Bloom, 2005). TIC approaches policy and practice with an "awareness of the prevalence of trauma, understanding the impact of trauma, and commitment to incorporating those understandings in policy, procedure, and practice" (Yatchmenoff et al., 2017, p. 167).

Program PENGUIN

Programme Pingouin [Program Penguin] was born out of a collaboration between Boscoville (a non-profit organization promoting the well-being of children and youth) and the Social Responses to Complex Trauma Research Group at McGill University. It is a trauma-informed program developed specifically to respond to the needs of residential treatment centres serving children aged 6 to 12. Deployed in the province of Québec, Canada, this program aimed to help workers develop trauma-informed attitudes and implement trauma-informed practices, make the workplace more responsive to the well-being of residential childcare workers, and reduce the use of restraints and seclusions among school-aged children in residential treatment centres. Program Penguin was developed and

deployed using social innovation approach. This way of working puts a strong emphasis on the co-construction of innovative practices and aims to build upon pre-existing strengths within organizations. Supporting organizations as they moved through the implementation of Program Penguin was a key strategy employed to promote lasting cultural change (Fixsen et al., 2005).

The theoretical foundations of program PENGUIN

Four distinct yet overlapping knowledge bases were tapped to bring Program Penguin together. The first, complex trauma, set the stage for the residential treatment centre teams to understand why this innovative approach was necessary and to explain why it would benefit them and the children in their care. The second, the Attachment, Self-Regulation and Competency (ARC) framework, made clearer links between the impacts of complex trauma and what to do to help impacted children (i.e. TIC). The third, the Positive Behavioural Interventions & Support (PBIS) framework offered further guidance on the specific types of intervention and programming proven to improve behavioural outcomes for children and youth in institutional settings. Finally, the fourth, social innovation, offered guidance to the implementation team on how best to work with the diverse residential treatment centre teams to promote scalable, sustainable local programs with high staff buy-in and a high possibility of holistic organizational transformation.

Complex Trauma

Understanding complex trauma, its prevalence among children in residential treatment centres, and how best to respond therapeutically to the impairments and dysfunction that can result from these experiences is foundational to this program. Training full residential treatment centre teams (e.g., managers, workers, clinical supports) allowed a shared language and vision regarding child behaviour, and a mutual sensitivity to the effects of some interventions on trauma reactivation (Bryson et al., 2017; Chafouleas et al., 2016; Dorado et al., 2016). In Program Penguin, all staff received awareness training to recognize the neurological and biological consequences of complex trauma. Residential treatment centre teams were given five additional one-day trainings that guided the transformation or confirmation of existing organizational practices. The clinical supervisors and unit managers received supplementary training and support activities to transfer the knowledge base from the implementation team to key individuals within each site.

ARC

The ARC framework (Blaustein & Kinniburgh, 2018) was drawn upon to inform how TIC theory is translated into practice. ARC describes how to prevent behaviour problems and, when prevention is not possible, how to intervene with a focus on the causes of behaviours – rather than seeking to modify or extinguish them. Changing the focus of interventions with children in residential treatment centres who are emotionally dysregulated can also assist residential childcare workers to empathize with the dysregulated child, and to identify and deploy strategies to soothe them. ARC conceptualizes how children can recover from the impacts of complex trauma, assists practitioners to reduce the use of interventions that risk reactivating children's trauma responses, and places emphasis on supporting residential treatment centre workers in this demanding work to promote their capacity to stay attuned to the children in their care while preventing the potential for harmful impacts, such as secondary traumatic stress (Blaustein & Kinniburgh, 2018). ARC interventions aim to develop children's self and relational skills and equip care systems and workers with adaptive responses to the developmental aftereffects of complex trauma. This theoretical framework draws on theories of resilience, attachment, neurobiology, complex trauma, and child development to foster evidence-based secure day-to-day interactions with children and youth (Hodgdon et al., 2013; Lawson & Quinn, 2013). The ARC model is currently deployed in many settings and is recognized as a promising practice by the National Child Traumatic Stress and the Substance Abuse and Mental Health Service Administration. Outcome studies show a decrease in symptoms linked to post-traumatic stress, a decrease in use of restraint and seclusion measures (Hodgdon et al., 2013), and a decrease in externalized and internalized behavioural problems (Hodgdon et al., 2013; Arvidson et al., 2011).

PBIS

The PBIS framework integrates strategies shown to be effective in preventing challenging or potentially harmful behaviours and improving social skills through a preventive and proactive approach. Professionals are guided to implement strategies focussed on meeting youth needs using a structured approach to service delivery (Sugai & Horner, 2002). PBIS creates an environment where children are shown the expectations of their behaviour and guided to achieve those expectations in a supportive and positive manner. Practices such as explicit teaching of expected behaviours, reinforcement of said behaviours, and tailored strategies to manage behaviour gaps are promoted (Sugai

& Horner, 2006). PBIS programs incorporate the collection of on-site data, both to document implementation and to assess intervention effects. In Program Penguin this site-specific use of data guided residential childcare workers by demonstrating what was working and what was not, so interventions could be suitably adjusted. As a result of the effectiveness PBIS has shown in the American school system, several states have started to widen its deployment from schools into residential settings (Flower et al., 2011). Outcome studies of PBIS in young offenders' services and alternative schools are promising. A 73% decrease in the use of restraints and seclusion measures over a 15-month period (Sidana, 2006) and a significant decrease in behavioural problems (Simonsen & Sugai, 2013) have been reported in those settings.

Social Innovation

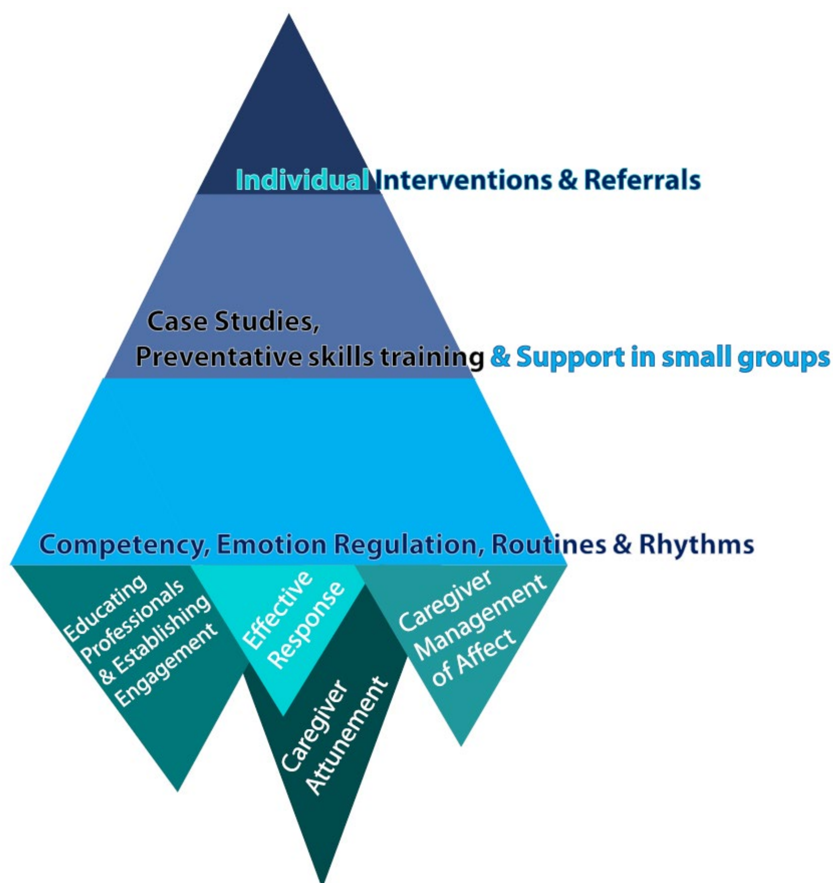
Program Penguin was developed and implemented through social innovation. Social innovation is defined as an initiative, program, or project "that challenges and over time contributes to changing the defining routines, resources and authority flows or beliefs of the broader social system in which it is introduced" (Westley & Laban, 2015, p. 5). The purpose of social innovation is to achieve lasting transformation through methods that include people with lived experience of the challenge being addressed and allows for the process of change to be scaled up to respond to the breadth of the social problem of concern (Surman, 2018). This applied strategy is inclusive of diverse voices and perspectives and seeks to attack root causes by co-constructing solutions through collaborative innovation. Surman (2018) proposed four nonlinear stages through which social innovation projects move towards completion: ideation, invention, adoption, and impact. These stages are effective at describing the progression of Program Penguin.

Ideation. This stage begins when an innovator intentionally starts a process to bring about change to solve a social issue. Program Penguin began when multiple innovators converged to pool their efforts to improve the lived reality and outcomes for children in residential treatment centres. Boscoville brought their knowledge accrued through promoting youth well-being through social innovation and PBIS and the Social Responses to Complex Trauma research team, under Delphine Collin-Vézina, brought their knowledge accrued through the implementation of an ARC-informed program in residential treatment centres throughout Québec. Through sustained work over months and in consultation with the partnering residential treatment centres in the pilot project (Estrie, Montérégie, Bas-St-Laurent, and Abitibi-Témiscamingue) Program Penguin was formed. Figure 1 shows how the different knowledge bases came together to form an innovative, tiered framework specific to the residential treatment centre context. Like an iceberg, what is at the bottom – or underwater – makes the biggest impact on how things move. Program Penguin is anchored by the knowledge and capacities brought into the helping relationship by professionals. Above the water line, we see three tiers representing the intervention structure used in complement with data collected on-site in the day-to-day programming. The base of this triangle represents competency, emotion regulation, routines and rhythms. These elements of Program Penguin are in place for all children at all times and represent optimal conditions for many children placed in residential treatment centres. The second tier represents the strategies employed for children who are at a higher risk of impairment or dysfunction (case studies, preventative skills training, and support in small groups), or who are not adequately soothed by the strategies represented in the first tier. In the third tier, individual interventions and referrals are proposed for the most vulnerable children or those who are not responding to the interventions represented in the first two tiers.

Invention. In this stage, the new process or approach is introduced as a novel strategy to create the desired change. It is a stage of trial and error and experimentation. Program Penguin introduced a series of novel guiding principles and methods. First, the imperative was to train the entire team in each residential treatment centre. Second, it was to create safe (i.e. secure, predictable, coherent) environments for both the children and the residential treatment centre team. This included, for example, how training was offered. Staff were not quizzed or put on the spot in training. Attending to the well-being of residential treatment centre team members was a priority at every level of implementation. Training was designed to buffer upsetting content by making the context of traumatic experiences explicit and training the teams on the potential for secondary traumatic stress, and what to do about it. A strategy for decision-making based on data was introduced and incorporated in the implementation, proposed interventions, and problem resolution strategies. On-site TIC expertise was developed to transfer knowledge from the implementation team to the residential treatment centres, making the program more independently sustainable. The structured interventions introduced in the training were further co-developed with each site to ensure they were relevant to local needs while maintaining efficacy. Finally, throughout the implementations multi-site exchanges were held to allow the different residential treatment centre settings to learn from each other about effective strategies and problems

encountered throughout the province. In this way, different regions were able to coordinate with each other to further promote the co-development of their programs.

Figure 1. The Program Penguin Model



Adoption. This stage refers to the scaling up and replication of the social innovation effort. In 2018, the Program Penguin pilot project was launched in five residential treatment centres in four different regions of Québec. Currently, the program is running in nine units across eight regions. Further, due to a demand from the original five residential treatment centres and new residential treatment centres who learned about the pilot project, an adolescent version of Program Penguin has also been developed (Program Polaris) and is currently launched in fifteen residential treatment centres over six Québec territories. To generate Program Polaris, only the knowledge base of Program Penguin was adapted, to reflect the realities and needs of adolescents and the residential treatment centre professionals serving them. Between these two programs, 44% of Québec's Integrated (University) Health and Social Services centre network has at least one implementation underway. Adapting practices to different regions and different teams was key to residential treatment centre team engagement and motivation. Since residential treatment centres differ greatly from one region to another in terms of staff, clinical support, and financial resources, it was important that practices be adapted to each setting. By design, each residential treatment centre team had the freedom to identify their core values, adapt the themes used, and engage their creativity in defining how the elements of the program were presented to the children and youth. The motivation that these implementations have inspired is exemplified by the residential childcare workers in one setting volunteering to repaint their entire unit in their chosen theme (a colourful nature theme with cartoon animals). Making space for the vision of the residential treatment centre teams to be woven throughout the program mobilized and unified them around the challenging transition they were called on to make in their perspectives and practices.

Impact. This stage represents a measurable difference that the social innovation has produced – how the system or social problem has been changed for the better. Before and during the implementation of Program Penguin

several types of data were collected. First, the Boscoville development agents conducted individual interviews and focus groups with all of the professionals involved in evaluating the implantation on an ongoing basis. Agents observed increases in the use of positive, trauma-informed interventions although some residential childcare workers interpreted the new intervention style as "lax," or "without rules or limits." Through training, on-site coaching, case studies, implementation committees, and clinical supervision, the Boscoville development agents observed teams applying the Penguin approach and developing intervention strategies to replace the use of ineffective limits or consequences. For example, several units created calming rooms and residential childcare workers reported that having these rooms available lead to a decrease in the use of restraints and seclusion as well as to a new perspective on the use time-outs (a tool for calming rather than punishing a child).

Residential treatment centre team member attitudes were measured using the attitudes related to trauma-informed care (ARTIC-35) scale (Baker et al., 2016). Strong effects between team member characteristics and attitudes related to trauma-informed care measured by the ARTIC-35 were found. Team member attitudes were impacted by: (a) the ages of the clients they served (children or youth), (b) the legal mandate under which their clients were placed (child protection or young offenders), (c) the professional role they occupied (residential childcare worker or management) and their level of education. These effects suggested that TIC implementation must be tailored to account for differences in TIC attitudes pre-training, including the clientele served, the mandate under which they are receiving child welfare services, the educational background of the workers, and the workers' current positions in the child welfare system (Collin-Vézina et al., 2020). Interview data was collected in three waves pre, mid and post pilot project implementation using the Secure Base Interview (Schofield & Beek, 2018). The final section of this interview asks about sources of support for the professionals in residential treatment centres. An analysis of that data from the pre-implementation interviews indicated the value of collegial support and the need for adequate resources such as: having enough time to spend with their assigned youth, effective training for all staff members, adequate ratios of professionals to youth on the floor, reliable and routine access to unit managers and clinical supervision, regular team meetings, and breaks throughout their shift (Brend & Collin-Vézina, 2020). Finally, there has been an analysis of provincial administrative restraints and seclusion (SR) data. SRs occurring in residential treatment centres prior to and 12 months following the implementation of Program Penguin and the concurrent ARC-informed staff training implementations were analyzed, showing an increase of SRs within the first two months of implementation followed by a steady decrease thereafter (Matte-Landry & Collin-Vézina, 2019). Program Penguin and Program Polaris have shown evidence that changes have resulted in residential treatment centre team attitudes, practices and outcomes for children and youth.

Limitations

Implementing programs in the field through social innovation is challenging and requires a great deal of flexibility on the part of an implementation team. The flexibility inherent to social innovation runs counter to the standardization required in many research methods. It could therefore be argued that due to across-site differences, our findings lack some generalizability. Second, the challenging context of residential treatment centre worker turnover had many impacts on our implementations, where in one site the implementation had to be completely re-started when all of the original participants had left. We failed to anticipate the need to train new staff on an as-needed basis and find ways to onboard them as the implementation was underway. Third, we developed a novel process for the collection of data about day-to-day youth behavioural issues. This tool proved challenging to implement largely due to daily time constraints faced by residential treatment centre workers. Strategies to improve this process must be identified to ensure interventions are data driven. Finally, these programs were implemented within the whole system of each residential treatment centre; however, without implementation at higher levels, unit managers had limited capacity to make necessary changes (i.e. to budgets or allocation of staffing). As our TIC initiative occurred downstream within a larger system, we were limited in how far transformative practices could be advanced.

Future Considerations

First, the inclusion of worker-level data (turnover, sick leaves, exit interviews, etc.) would be a valuable addition to TIC implementation. Little is known about the possible impacts of TIC programs on reducing turnover and intent to leave among residential treatment centre professionals and these are critical considerations towards creating secure and stable helping relationships for children in care. Second, while TIC calls for the inclusion of social oppression in program development, greater emphasis on including intersecting perspectives from equity seeking groups in

program development is indicated. Further, Indigenous and children of colour are overrepresented in systems of care making voices from their communities critical towards the development of effective TIC programming. Third, identifying strategies to improve coordination with professionals offering services to the children and youth external to residential treatment centres (psychologists, occupational therapists) is important towards assuring consistency in the therapeutic approaches being used with each individual child and youth. Finally, systematically assessing the potentially harmful impacts to residential treatment centre professionals (e.g. secondary traumatic stress, moral distress, burnout) and identifying the most effective strategies to promote their resilience and efficacy would also be a valuable direction to take future research efforts.

Conclusion

The implementation of a TIC program into residential treatment centres requires a reappraisal of every aspect of practice, from the philosophies that ground attitudes towards children and youth in placement to the behavioural expectations related to each moment in their routine. Our implementation strategy delivering trauma-informed care through social innovation has succeeded in motivating residential treatment centre professionals to change their practices and suggest that delivering a TIC program through social innovation is a promising approach. We found workers' needs and attitudes, intervention strategies, and the use of restraints and seclusions were altered following Program Penguin. These changes occurred despite local issues that arose and the challenges inherent in program deployment within child protective settings. Further, our understanding about the factors that result in positive changes for children and youth in care and the professionals caring for them have been enriched. Program Penguin will continue to evolve in response to the new evidence arising from ongoing inquiries into the effectiveness of this novel approach to the implementation of trauma-informed care. We hope to continue to co-develop Programs Penguin and Polaris towards improving interventions for children, clinical support for workers, and promoting the TIC approach for all of the services connected with children and youth.

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Conflict of interest

The authors have no conflict of interest to disclose.

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