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Academic buoyancy and mattering as resilience factors in Chinese adolescents: An analysis of shame, social anxiety, and psychological distress

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Abstract

Objectives: The current research sought to establish the protective role of factors in the achievement and the interpersonal domains in terms of their associations with reduced feelings of distress, social anxiety, and shame in Chinese adolescents. Specifically, we focused on academic buoyancy that taps daily academic resilience and the mattering construct as described by Rosenberg and colleagues. **Methods**: A sample of 232 adolescents from advanced and non-advanced high schools in China completed the Academic Buoyancy Scale, the General Mattering Scale, and measures of depression, social anxiety, and shame. **Results**: Analyses confirmed that academic buoyancy and a sense of mattering to others are associated with each other and both are linked significantly with reduced levels of depression, social anxiety, and shame. The findings were comparable for students from advanced versus non-advanced high schools. **Conclusions and Implications**: Our findings highlight the protective roles of developing a capacity to resiliently overcome academic setbacks and having an established sense of mattering to other people when coping with feelings of shame, social anxiety, and distress.

Key Words:

Buoyancy, resilience, mattering, coping, depression, anxiety, shame

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Introduction

Chinese children and adolescents face a number of stressors that point to the need to identify protective factors that promote resilience. The academic pressures that students experience are well-documented (see Quach et al., in press) and these pressures can be exacerbated by a sense of family obligations and the interdependence that exists among family members (Triandis, McCusker, & Hui, 1990) as well as the issues related to China's one child policy (Hesketh, Lu, & Xing, 2005). Researchers studying depressive vulnerability have also focused on young people in China because of changing social times that promote a shift from a collectivistic orientation toward a more individualistic orientation (see Auerbach, Eberhart, & Abela, 2010).

Given the extent of this stress and pressure, it is important to identify various protective factors and examine the role of individual differences in levels of resilience among Chinese children and adolescents. Numerous protective factors have been identified thus far, including a sense of life meaning and purpose (Shek, 2013), parental warmth and concern (Chen, Liu, & Lu, 2000; Leung, McBride-Chang, & Lai, 2004; Shek, 2002) and endorsing positive Chinese beliefs about the nature of adversity (Shek, 2004). The current research focuses on the potential protective roles of academic buoyancy and mattering. Each construct is described in more detail below.

Academic buoyancy is a construct that reflects "everyday academic resilience" (Martin & Marsh, 2008a, p. 53). It has been defined as "… students' ability to successfully deal with academic setbacks and challenges that are typical of the ordinary course of school life (e.g., poor grades, competing deadlines, exam pressure, difficult schoolwork)" (Martin & Marsh, 2008a, p. 53). Academic buoyancy has been shown to be a construct that can be measured meaningfully and reliably in past research conducted with Chinese samples (see Martin & Hau, 2010; Martin, Yu, & Hau, in press; Yu & Martin, in press). Recent research by Yu and Martin (in press) linked academic buoyancy with positive mastery achievement goals. Academic buoyancy in Chinese students has also been linked significantly with higher levels of self-efficacy, persistence, and task management and lower levels of self-handicapping, failure avoidance, and anxiety (Martin et al., in press). The current research sought to extend the range of measures of psychological adjustment that should be associated with academic buoyancy by examining its link with depression and with indices of psychosocial adjustment (i.e., social anxiety and shame). Our working premise is that at the root of academic buoyancy is a sense of a positive, efficacious self, as indicated by past research (Martin, Colmar, Davey, & Marsh, 2010; Martin & Marsh, 2006), and as such, academic buoyancy should be linked negatively with outcome variables such as shame and social anxiety that reflect a negative self-view. The general role of a positive sense of self-efficacy in resilience is well-documented (see Rutter, 1987).

Mattering is another protective factor linked with positive self-views and self-efficacy that has not been extensively discussed in the context of a factor that promotes resilience. What is mattering? And how and why does mattering matter? Mattering is related to but distinguishable from self-esteem (see Rosenberg, 1979). Rosenberg and McCullough (1981) defined mattering as "the feeling that others depend on us, are interested in us, are concerned with our fate, or experience us as an ego-extension." (as cited in Taylor & Turner, 2001, p.311). This sense of being significant and important to one or more people should be instrumental as a key protective resource that buffers life stressors and setbacks. According to Taylor and Turner (2001), the four sources of feeling that one matters are described as (1) dependence (i.e., obligations arising from social bonds and the perception that one's actions and affection toward others will have an effect on them); (2) importance (i.e., the perception that we are of interest and concern to others); (3) attention (i.e., perceiving one's actions as being noticed and acknowledged by important others); and (4) ego-extension (i.e. the perception that one could bring about joy or disappointment with one's own personal successes or failures, or that one would be missed if they were gone).

Mattering has not been discussed extensively or evaluated empirically as a resilience factor despite countless case reports of how one or more caring individuals have instilled a sense of mattering in

a child or adolescent and it is this sense of being a significant person in the eyes of someone else that has helped this young person to not only withstand challenges but actually thrive. The primary exception is a study that treated mattering as a coping resource and found that mattering acted as a buffer of the link between psychosocial stress and depression (Turner, Taylor, & Van Gundy, 2004). As might be expected, several researchers have found generally that among adolescents and adults, a stronger perceived sense of mattering predicts less depression, less suicide ideation, and greater self-esteem (e.g., Elliott, Colangelo, & Gelles, 2005; Elliott, Kao, & Grant, 2004; Marshall, 2001; Schieman & Taylor, 2001; Taylor & Turner, 2001). These studies reflect the premise that well-being is related fundamentally to rewarding social relationships (Taylor & Turner, 2001). One concern that might arise is that mattering is seen as simply another measure of self-esteem, but this is not the case. Indeed, mattering and self-esteem are distinguishable, both at the empirical and conceptual levels. In fact, in their classic paper, Rosenberg and McCullough (1981) showed that mattering to parents predicted a number of important outcomes independent of levels of self-esteem. The sense that emerges from this work when it is viewed from a resilience building perspective is that mattering promotes a lasting positive sense of self and identity that is an essential resource in "times of trouble."

To our knowledge, individual differences in mattering have not been evaluated thus far in participants in China, and in general, there is little cross-cultural work on the nature and correlates of mattering. However, there is evidence of the protective role of caring relationships with peers and family members as buffers of depression among Chinese adolescents (see Zhang, Li, Gong, & Ungar, 2013) and these caring relationships likely operate by promoting a sense of mattering. The need to matter to other people is a key factor in well-being that is likely a universal need, but it is our sense that it should be particularly salient and predictive in collective societies that emphasize a personality structure that is highly influenced by themes reflecting the self in relation to others.

Goals and Hypotheses of the Current Study

The initial goal of the current study was to examine the association between academic buoyancy and perceived mattering. A positive association was expected in light of the general role of positive psychosocial factors in promoting psychological resilience even though we regard buoyancy and mattering as unique predictors.

The second goal of this study was to re-examine individual differences in academic buoyancy among Chinese adolescents. Our particular interest was in establishing that a sense of resiliency in the academic domain relates not only to academic outcomes, it also relates to psychosocial adjustment measures.

Finally, our primary goal was to evaluate the hypothesis that there are meaningful individual differences in perceived mattering among Chinese adolescents, and these differences have an important protective role. Accordingly, it was expected that greater perceived mattering would be associated with lower levels of shame, social anxiety, and depressive symptoms.

Note that our focus on these outcome measures was guided by two considerations. First, there is a paucity of data on how academic buoyancy relates to psychosocial outcomes, so we sought to address this void in the literature. Second, we included a focus on social anxiety and shame in light of some data suggesting that shame and social anxiety are particularly salient among young Chinese people (Zhong et al., 2008). The same measures used by Zhong et al. (2008) were used in the current study.

It should also be noted that a unique aspect of this study is that our sample included an approximately equal number of participants from an advanced high school versus a non-advanced high school. High schools in every city in mainland China are divided into two types-- advanced high schools or regular high schools. Admission to an advanced or regular high school depends on the student's scores on tests for the main school subjects (e.g., math, literature, English, physics, chemistry, biology, politics) in one city. Students in the advanced high school have typically done very well in terms of their demonstrated

learning of these various subjects. We felt that it was important to evaluate possible differences according to school type because of the different challenges facing students in these schools. Students in advanced high schools face more competition and presumably, more social comparison pressure, and in general, more academically rigorous programs are associated with higher stress (Suldo & Shaunessy-Dedrick, 2013).v They may also face greater family and societal expectations, and there is evidence indicating that they do indeed experience comparatively more stress-related symptoms (Ju, Zhang, Su, Fang, & Zhu, 2002; Li & Zheng, 2007. However, the students placed in regular high schools are not as successful as their peers in the advanced high school, and may have suffered a loss of face, so this sense of relative failure is a stressor that also requires a resilient approach. We included this distinction despite not being able to formulate clear hypotheses due to the lack of systematic comparative research examining school type in the existing literature.

Method

Participants

Our sample consisted of 242 participants. Overall, there were 111 adolescent participants from an advanced high school in mainland China (52 boys, 59 girls) and 131 adolescents from a non-advanced high school (68 boys, 63 girls). Participants were recruited in different high schools in Anshan city in the north-east of China. Our participants had a mean age of 17.98 years. In each high school, participants were recruited from Grade 9 and Grade 11, with an equal number of girls and boys recruited from each grade. All participants were born in mainland China.

All participants were volunteers and no one indicated that they did not wish to participate and no interested participant was excluded. Informed consent from each student was obtained. All the participants were recruited initially via class announcements by the class teachers in two types of high schools. The data collection took place during the month of May in 2011. Once consent was obtained, the questionnaires were administered by a team consisting of the second, third, and fourth authors. Note that the third author was also on hand in the role of mental health coordinator for the schools. Once participants completed the survey, each participant was given a written debriefing form in Mandarin and an small monetary gift (approximately $5 Canadian) for taking part in this study.

Measures

The various measures used in the current study are described below. Participants were tested in class groups. Note that all measures were translated into simplified Mandarin from the original English version by the second author, who is qualified as a professional translator, and then, in accordance with established procedures, the accuracy of the translations was assessed by having the measures back translated by another bilingual Mandarin-English speaker. The following measures were administered after a demographics questionnaire asking for birth, gender, and grade level in high school was completed:

The Academic Buoyancy Measure (ABS; Martin & Marsh, 2008a, 2008b). The ABS is a 4-item scale with items such as "I am good at dealing with setbacks at school – e.g., negative feedback on my work, poor result." Participants rate each item on a seven-point scale with "1" indicating strongly disagree and "7" indicating strongly agree. Elevated scores on the ABS are associated with numerous positive outcome variables (Martin & Marsh, 2008a, 2008b). Academic buoyancy is correlated strongly with more standard measures of academic resiliency, and is associated with lower levels of general anxiety and academic disengagement (Martin, 2013).

The Rosenberg Mattering Scale (RMS; Rosenberg & McCullough , 1981). The RMS is a five-item measure of how much one perceives they matter to others. The five questions are: (1) How important are you to others? ; (2) How much do other people pay attention to you?; (3) How much would you be missed if you went away?; (4) How interested are others in what you have to say?; and (5) How much do other people depend upon you? This measure has shown good internal consistency with an alpha coefficient of .85 (Taylor & Turner, 2001). Factor analysis confirmed this measure is unidimensional (Taylor & Turner, 2001).

The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). The CES-D scale is a 20-item measure of the level of depressive symptoms within the past week. The CES-D has shown adequate test-retest reliability and construct validity in both clinical and nonclinical samples (Radloff, 1977).

Social Interaction Anxiety Scale (SIAS) and Social Phobia Scale (SPS) (Mattick & Clarke, 1998). This set of companion scales is commonly used self-report instruments for social anxiety. They assess the main fears of interaction with others and the fears of being observed while doing routine activities, and avoidance of social phobia, focusing respectively on interaction fears and more specific performance-based fears. Statements are rated on a 5-point Likert scale. Each scale consists of 20 items based on a Likert-type scale ranging from 0 (not at all) to 4 (extremely). Reliability is good for both the SIAS and SPS in various samples, with Cronbach's alphas ranging from 0.88 to 0.94 for both scales. Also, both scales have demonstrated high test–retest reliabilities.

The Experience of Shame Scale (ESS) (Andrews, Qian, & Valentine, 2002). The ESS measures three areas of shame: characterological shame, behavioral shame, and bodily shame. However, only characterological shame was assessed in the current study. This decision reflected our efforts to minimize the questionnaire length and the amount of reading involved, but we also wanted to reflect classic definitions of shame as a self-conscious emotion that reflects a potentially permanent aspect of the self. Behavioural shame may be more akin to guilt than to shame because researchers who focus on self-conscious emotions define guilt as the negative emotion that arises from behavioural misdeeds and mistakes (see Tangney, 2002). Higher scores on the ESS indicate higher levels of shame proneness. The ESS has been shown to have high levels of internal consistency, test-retest reliability, as well as concurrent validity in terms of its association with other shame measures (Andrews et al., 2002).

Results

Descriptive Information

Initially, descriptive statistics were computed to examine the psychometric properties of the various measures. All of the measures had acceptable levels of internal consistency. Cronbach alphas were as follows: academic buoyancy (.79), mattering (.77), depression (.77), social anxiety (.84), social phobia (.91), and shame (.89).

A multivariate analysis of variance and subsequent ANOVAs explored possible group differences in mean scores for students according to type of high school and for boys versus girls. These analyses were conducted to primarily explore the issue of possible differences related to type of school. Few significant differences were detected. The primary exception was a group difference by school type on mattering with students from the advanced high school having lower levels of reported mattering than students in the non-advanced high school. The respective means were 13.08 (SD = 2.69) and 13.31 (SD = 3.02) for students from advanced versus non-advanced high schools. There was no group difference involving school type on academic buoyancy. The respective means were 3.93 (SD = 0.79 and 3.59 (SD = 0.80) for students from advanced versus non-advanced high schools, suggesting low to moderate overall levels of academic buoyancy.

The zero-order correlations among the measures were then computed to establish the associations involving academic buoyancy and mattering. First, however, the degree of overlap among the adjustment measures was evaluated, in part due to our use of an abbreviated shame measure. As expected, the measures of psychological maladjustment were substantially intercorrelated, but not to the extent that they were redundant with each others. For instance, shame was correlated significantly with social anxiety ($r = .66$, $p < .01$), social phobia, ($r = .66$, $p < .01$), and depression ($r = .59$, $p < .01$).

The correlations for the total sample are shown in Table 1 for the key measures of academic buoyancy and mattering. Note that there was a significant positive association between these two measures in the overall sample ($r = .25$). There were some indications that these measures had a stronger link in the sample from the advanced high school sample ($r = .36$) than in the participants from the non-advanced high school ($r = .20$).

Table 1: Correlations with Academic Buoyancy and Mattering Measures

Maladjustment Measures	Buoyancy	Mattering
Total Sample		
Depression	-.38**	-.36**
Social Anxiety	-.32**	-.36**
Social Phobia	-.27**	-.20**
Shame	-.26**	-.25**
Students: Non-Advanced High School		
Depression	-.36**	-.38**
Social Anxiety	-.24**	-.38**
Social Phobia	-.27**	-.23**
Shame	-.27**	-.27**
Students: Advanced High School		
Depression	-.41**	-.41**
Social Anxiety	-.46**	-.34**
Social Phobia	-.32**	-.17**
Shame	-.31**	-.24**

Note: * $p < .05$, ** $p < .01$. Based on the responses of 242 participants.

It can be seen in Table 1 that academic buoyancy was associated with significantly lower scores on all of the adjustment measures in the overall. The strongest links were found between academic buoyancy and depression (r = - .38) and between academic buoyancy and social anxiety (r = - .32). This same pattern of associations was apparent for the students in the advanced and the non-advanced high school.

Similarly, mattering was also associated significantly with lower scores on all of the adjustment measures. It was found once again that the strongest links were v vwith depression (r = - .36) and with social anxiety (r = - .36). Here again it was found that a comparable pattern of associations was apparent for the students in the advanced and the non-advanced high school.

Discussion

The results of the current study confirmed the protective roles of academic buoyancy and mattering in psychological adjustment among Chinese adolescents. As expected, buoyancy and mattering were associated with each other, and both factors were linked with higher levels of depression and lower levels of shame, social anxiety, and social phobia. A unique feature of this study was that it involved students from high schools varying in levels of status based on the tendency for students in China to be placed in schools based on past performance. This distinction made surprisingly little difference in the current study both in terms of overall mean levels on the key variables as well as in terms of the pattern of correlations.

One of our goals in conducting this study was to highlight the need to consider resilience not only in terms of general emotional resilience, but also in terms of developing a sense of academic resilience that would operate in challenging achievement situations and in terms of developing a sense of interpersonal resilience that would operate in problematic interpersonal situations. We interpret the apparent protective effects of academic buoyancy and mattering found in the present study as clear indications of the need to consider specific resilience domains, with the caveat that at the root of resilience in terms of emotional, academic, and interpersonal functioning is a positive sense of the self as capable, efficacious, and likely to contribute to a positive personal future.

Specific findings in the current study merit additional comment. First, while academic buoyancy has been associated with reduced neuroticism and emotional instability in general (Martin et al., 2013), to our knowledge, the negative association between academic buoyancy and depression in adolescents has not been previously reported. Our results suggest that students experiencing learning challenges will be protected from depression and ruminative brooding to some degree if they have developed a sense of everyday academic resilience as reflected by the academic buoyancy construct. These data fit with the impact that academic failures can have in terms of undermining the well-being of students who have not developed resilience and a sense of grit.

Second, the finding that academic buoyancy is associated with lower levels of shame, social anxiety, and social phobia is an illustration of how academic resilience can have crossover effects in terms of contributing to psychosocial adjustment. The current

findings are in keeping with our suggestion that the positive sense of self-efficacy that underscores academic buoyancy can have a pervasive influence in also boosting self-confidence in social situations and inhibiting feelings of shame and the sense the personal inadequacies are on public display.

Third, because feelings of shame and humiliation can have profound impacts on well-being, it is important to identify the factors that enable some people to respond in a resilient manner when these feelings are experienced. The challenges facing the ashamed person are quite significant. One grounded theory analysis suggested that shame is nothing short of an attack on the self and this adversity requires a process of self-reconstruction in order to overcome it (Van Vliet, 2008). Other analyses suggest that people can become disabled by shame and resilience comes from learning to reposition oneself with respect to other people (see Leeming & Boyle, 2013). Our current findings suggest that academic buoyancy and a sense of mattering can help to overcome shame, but these factors account for a modest proportion of the variance in levels of shame. Clearly, other protective factors need to be identified and there is room for much more research on the factors that promote resilient coping when feeling ashamed and humiliated.

Finally, a particularly unique aspect of the current study was our focus on mattering as a protective factor and boosting the sense of mattering in order to promote resilience. As noted earlier, to our knowledge, mattering has not been studied in a sample of Chinese adolescents. The need for a focus on this construct was clearly evident; mattering in the current study was linked with lower depression, thus replicating past findings (Flett, Galfi-Pechenkov, Molnar, Hewitt, & Goldstein, 2012; Raque-Bogdan, Ericson, Jackson, Martin, & Bryan, 2011), and it was also linked with lower levels of shame and social anxiety. The role of mattering in buffering feelings of shame and social anxiety has not been previously documented, and the association with shame in the current study is particularly noteworthy given the relevance of the face construct and "facework" in Chinese society and how loss of face is linked with a sense of shame (see Karn & Bond, 2008).

More generally, when mattering is viewed from a resilience perspective, the benefits of feeling significant and positively regarded by others seem quite apparent, yet systematic research on the role of mattering in resilience promotion is still needed. The young person with a sense of mattering will not only have a positive self-identity to fall back on during times of stress and trauma, they will also have a positive orientation toward other people that should promote help-seeking and a tendency to keep in close proximity to supportive mentors. Mattering is also beneficial through its link with other protective factors and personality tendencies, such as a secure attachment style (see Raque-Bogdan et al., 2011). Unfortunately, the extensive work that has been conducted on self-esteem and resilience has seemingly obscured the fact that a distinct component of self-esteem, the need to matter to other people, can play a fundamental role in developing a sense of personal resilience.

Limitations of the Current Study and Directions for Future Research

While the current study yielded some unique findings, certain limitations should be noted. First, the current study was cross-sectional in nature, so no causal assumptions are warranted. Future research must explore these issues in a longitudinal design. The need for such an approach is suggested by longitudinal data suggesting the presence of reciprocal relationships between academic buoyancy and measures of academic and psychological risk (Martin, Ginns, Brackett, Malmberg, & Hall, 2013).

Second, the current study was based solely on self-report measures, so there are possible self-report response style biases. It is important in future research to re-examine these issues with informant ratings. It would also be informative to examine these constructs in their actual daily contexts by utilizing an experience sampling approach.

Third, it is important not to over-generalize our findings. While it is more than conceivable that these findings are replicable in other cultures and contexts, this is a question for future research.

Fourth, our study focused on a general measure of mattering and there is merit in studying mattering as a broader context. Mattering can be evaluated in

terms of mattering to peers and friends, mattering to parents, and mattering to the community, so it is conceivable that the protective role of mattering as a resilience factor has been underestimated in the current study.

Finally, we limited our focus to mattering as a protective factor from the social domain and there are several other related factors that also deserve consideration in future research. Most notably, research is needed to directly show that individual differences in mattering are linked empirically with standard resilience measures. However, in this regard, we reiterate that the current results did suggest a positive association between buoyancy and mattering.

In summary, the current study examined predictors of depression and psychosocial adjustment in a sample of Chinese adolescents and we confirmed that both academic buoyancy and mattering are associated with lower levels of depression, social anxiety, social phobia, and shame. Our findings suggest that adolescents would benefit from preventive efforts in school and family settings that are focused on boosting levels of academic buoyancy and the sense of mattering to other people. Such efforts should benefit children and adolescents in general, but especially those young people who are exposed to and must withstand significant pressures and challenges.

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