Mattering, Stress, and Burnout in Feelings of Distress, Defeat, and Entrapment Among Chinese High School Students

Gordon L. Flett, PhD[1,6*], Chang Su, PhD[2], Taryn Nepon, PhD[1], Edward D. Sturman, PhD[5], Liang Ma, PhD[4], Lianrong R. Guo, PhD[3]

[1]Department of Psychology, LaMarsh Centre for Child & Youth Research, York University, Canada
[2]Department of Psychology, Brandon University, Canada
[3]Educational Scientific Institute, Anshan Normal University, China
[4]Research Institute, Financial Street Hangzhouwan School, China
[5]Psychology Dept., State University of New York, Plattsburgh at Queensbury, USA
[6]ORC**iD:** 0000-0002-4502-6285
*Corresponding author: Gordon L. Flett, gflett@yorku.ca

Abstract. *Objectives:* The current research examined the role of mattering as a psychological resource that may play a protective role among high school students from China. This study evaluated how mattering relates to school stress and burnout, loss of face, and experiences of distress and feeling trapped and defeated. *Methods*: A sample of 242 high school students from China completed the General Mattering Scale (GMS), the Educational Stress Scale, and measures of school burnout, loss of face, and depression. Participants also completed the Involuntary Subordination Scale and its four subscales assessing submissiveness, defeat, entrapment, and social comparison. *Results*: Psychometric analyses confirmed the GMS is a sound unidimensional measure. Mattering was associated significantly with lower educational stress and academic burnout, as well as lower levels of depression, defeat, entrapment, and social comparison. There was a negligible link between mattering and loss of face. Regression analyses indicated that mattering is uniquely protective; it predicted unique variance in depression, defeat, and entrapment beyond variance attributable to levels of loss of face, educational stress, and school burnout. *Conclusion and Implications*: The results suggest that mattering is a key resource in terms of outcomes reflecting the school experiences and emotional reactions of high school students from China. We discuss the need for a comprehensive approach to promoting feelings of mattering and further research that considers its antecedents and consequences.

Keywords: Adolescents, Burnout, Defeat, Depression, Loss of Face, Mattering, Stress.

Introduction

The mattering construct was introduced over four decades ago. Rosenberg and McCullough (1981) conceptualized mattering as both a feeling and a need and suggested that mattering plays a vital role in personal adjustment and in society. They specifically defined mattering as the sense of being important to other people and getting their attention. They also proposed that people could have a feeling of mattering derived from knowing that other people are depending on them. A key point of emphasis for Rosenberg and McCullough (1981) was that the feeling of mattering and being valued by others should be seen as conceptually and empirically distinguishable from self-esteem. Indeed, they showed how mattering to parents predicted beyond self-esteem in four large samples of adolescents.

While mattering is important to everyone, Rosenberg and McCullough (1981) proposed that it is especially important and salient during two life periods -- adolescence and later in life as people become seniors. The current study focuses on mattering in high school students. Past evidence indicates that mattering in adolescents is associated with higher levels of well-being and lower levels of distress and suicide ideation (see Dixon et al., 2009; Elliott et al., 2005; Flett et al., 2022). A recent study by Somers and associates (2022) indicates that mattering has broad relevance in the academic and social lives of high school students. A sample of 217 adolescents from the United States completed brief scales of mattering, the Pattern of Adaptive Learning Scales, and a measure of executive function. Grade performance, school risk behavior, and social risk behavior were also assessed. Participants also completed measures of hope and loneliness. Statistical analyses established that mattering was associated with a positive academic orientation and higher grades. It was also associated with higher levels of hope, less risk behavior, and lower levels of loneliness. Somers et al. (2022) concluded that the promotion of mattering should yield mental health benefits, but it should also enhance adaptive academic orientations, resiliency, and self-regulation. This conclusion linking mattering with school-related outcomes is supported by earlier evidence showing that high school students with lower levels of mattering are at greater risk of dropping out of school (Lemon & Watson, 2011).

The current study is a follow-up to previous investigations we have conducted that evaluate mattering and its apparent benefits among Chinese children and adolescents. The first study by Flett et al. (2014) evaluated mattering in 232 Chinese high school students from advanced and non-advanced high schools. They completed measures of mattering, academic buoyancy, shame, social anxiety, and depression. This study found that mattering was associated positively with academic buoyancy (i.e., resilience). Mattering was also associated significantly with lower levels of shame, social anxiety, and depression. Comparable findings were evident for students from both advanced and non-advanced high schools.

A second study by Flett et al. (2016) examined the correlates of mattering among 218 Grade 4 children from China. This study focused on predictors of depression and included vulnerability factors (i.e., self-criticism and dependency) as well as protective factors (i.e., mattering, self-esteem, and unconditional self-acceptance). As expected, mattering was linked significantly with lower depression scores and it was associated positively with self-esteem. Self-esteem and self-acceptance also had significant negative associations with depression. As expected, depression was also associated with higher levels of dependency and self-criticism. Notably, a subsequent regression analysis established that significant unique variance in depression was predicted by mattering, self-esteem, unconditional self-acceptance, and dependency.

More recently, Flett et al. (2023) described results from a sample of 172 Chinese early adolescents in Grades seven and eight. These participants completed the General Mattering Scale (Marcus & Rosenberg, 1987) as well as the Rosenberg Self-Esteem Scale (Rosenberg, 1965) and questionnaires assessing anxiety, depression, negative affect, positive affect, loneliness, and shame. Self-report measures of perceived parental criticism and parental expectations were also included. Mattering was associated significantly with lower levels of depression, negative affect, loneliness, and shame. Mattering was also associated with higher levels of self-esteem and positive affect. Mattering was also associated with lower parental criticism. Finally, regression analyses based on these data showed that after controlling for individual differences in self-esteem, mattering predicted significant unique variance in shame, loneliness, and positive affect. However, mattering did not predict unique variance in depression in this study of early adolescents.

The current article revisits our first project described above with high school students (see Flett et al., 2014). The participants in this investigation were assessed with a vast array of measures and several key issues involving these additional measures have yet to be considered. The specific issues addressed in this report are outlined below.

First, we examined the link between mattering and measures of educational stress and academic burnout. To our knowledge, the possible negative association between mattering and educational stress has not been studied in past research. Educational stress among high school students in China has been linked with lower levels of school belonging and family connectedness, and reports of lower parental care and elevated parental control (see Sun et al., 2013). Other more recent research has linked educational stress with lower academic life satisfaction (Odaci et al., 2022). Accordingly, given that mattering tends to be associated with greater life satisfaction (Flett, 2018b), it is likely that mattering is linked with less stress. Further reasons why this should be the case are discussed below.

School burnout was considered in the current study within the context of the student demand-resources model of student engagement and burnout (see Salmela-Aro et al., 2022). If viewed within the context of this

model, mattering can be considered a key personal resource, albeit one that is relationally rooted. As such, it should be linked with less academic burnout.

In general, mattering has been proposed as a protective resource that enhances the well-being, success, and experiences of students (see Flett, 2018a). Moreover, support for efficacy and mattering is recognized as one of six essential keys to positive youth development (Eccles & Gootman, 2002). Elliott (2009) proposed that mattering protects against typical stressors and the physical, emotional, and social changes of adolescence. Mattering and stress in the form of pressure has not been studied among adolescents, but past research has established a link with stress in general. Lemon and Watson (2011) found a significant negative association (r = -.28) between scores on the General Mattering Scale (Marcus & Rosenberg, 1987) and the Perceived Stress Scale (Cohen et al., 1983). Hill and Madigan (2022) reported an association between the Anti-Mattering Scale and a measure of academic stress in a sample of gifted and talented adolescents. Also, Flett (2018a) described unpublished research in which a brief measure of mattering at school was associated with a measure of perceived stress among high school students from Canada. More generally, Rayle and Chung (2007/2008) linked mattering among undergraduates with lower self-reported levels of academic stress and this too suggests a possible association between higher mattering and lower educational stress in high school students.

Mattering and burnout have been studied but not among high school students evaluated in terms of school burnout, but mattering should qualify as a key personal resource in the demand-resources model of student engagement and burnout (see Samelo-Aro et al., 2022). Previous research with adult participants has linked mattering with less burnout in teachers (Richards et al., 2020) and in nurses (Haizlip et al., 2020). Other research in China has shown that a measure of the fear of not mattering had robust positive associations with facets of burnout in university students (see Chen et al., 2022). There are several potential reasons why feelings of not mattering should be associated with elevated burnout. It is conceivable, for instance, that students can be susceptible to exhaustion due to a conditional sense of self tied to the feeling they must work hard and be successful in order to truly matter to the people in their lives. This explanation fits with evidence that links striving for perfectionism with lower levels of mattering among gifted and talented adolescent students (see Hill & Madigan, 2022).

Another goal of this research was to extend a recent study pointing to a link between mattering and lower levels of involuntary subordination. The involuntary subordination concept is rooted in work on an evolutionary approach to the study of depression (e.g., Gilbert & Allan, 1998; Price et al., 1994; Sloman, 2000). Involuntary submission as assessed in the current study is a multi-faceted construct with facets tapping submissiveness, defeat, entrapment, and social comparison. We used a measure developed by Sturman (2011). A basic premise guiding research on this construct is

that involuntary subordination is a common and potentially adaptive reaction to a failed struggle because it may protect organisms from being injured. Subordination and associated behavior can effectively signal that the organism has been defeated and is out of commission and no longer a threat and should be spared further attacks. However, when the state of involuntary subordination becomes chronic and prolonged, as is the case when people feel trapped and defeated in life, it can lead to demoralization and depression. These same feelings and reactions ought to be the case for anyone with a sense of not mattering and perhaps never mattering in the future to significant others.

General research has established that higher levels of involuntary subordination as assessed by the inventory developed by Sturman (2011) are associated with depression, insecure attachment, and feelings of being defeated in life (see Sturman, 2019). In addition, levels of involuntary subordination are elevated among people with a reported history of mental health difficulties with scores considerably higher among people who are currently depressed or have a history of depression versus those who have never been depressed (see Gillard et al., 2021).

Mattering is a personal resource factor linked with feelings of mastery that seems antithetical to the feelings tied to involuntary subordination, but, as alluded to above, feelings reflecting a sense of defeat and being trapped seem to fit well with the vulnerability of people who feel like they don't matter to others. This observation accords with the one study conducted thus far. As noted above, Chen et al. (2022) showed in a large sample of Chinese university students that the fear of not mattering was linked robustly with reported levels of feeling trapped and feeling defeated during the Covid-19 pandemic. The current study revisits the potential association between mattering and involuntary subordination. However, the current work is distinct with its focus on high school students and by studying general mattering rather than the fear of not mattering to others. In addition, we examined all four facets of involuntary subordination and did not restrict our focus to entrapment and defeat as was the case in the study by Chen et al. (2022). The measure (i.e. the Involuntary Subordination Questionnaire; ISQ) is intended to provide an overall score for involuntary subordination, which was also examined in the present study (see Sturman, 2011). Being cognizant of the time commitment of our participants, we used the short subscales of the ISQ pertaining to defeat, entrapment, submissive behavior, and social comparison. Also, this version of the scale has a simplified response format that applies to items from all of the subscales and this too favors its use. However, researchers interested in these constructs are encouraged to use the original measures developed by Gilbert and Allan (see Allan & Gilbert, 1995; Gilbert & Allan, 1994; Gilbert & Allan, 1998).

The third goal of this research was more exploratory in nature. Specifically, we sought to determine whether there is a negative association between mattering and loss of face. A link between low mattering and loss

of face has not been proposed thus far in the literature, but it is worth considering since the notion of face is a core theme in Chinese culture (see Hu, 1944) and both perceptions of loss of face and mattering reflect appraisals that involve social influences and external evaluative concerns involving diminished prestige. Moreover, lower mattering is associated with shame among early adolescents from China (see Flett et al., 2023) and investigation of the face construct and "facework" in Chinese society has established that loss of face is also linked with a sense of shame (see Kam & Bond, 2008).

Finally, a fourth related goal was to assess whether mattering would predict depression, defeat, and entrapment beyond the variance in these adjustment measures attributable to educational stress, school burnout, and loss of face. Mattering has been described as double-edged in that it is a unique resource when evident, but it is a unique vulnerability among young people who lack a feeling of mattering. Past research with adolescents has shown that mattering predicts depression beyond the variance attributable to self-esteem (see Rosenberg & McCullough, 1981). The prevailing view is that mattering is a unique aspect of the self-concept that taps an aspect of the self that is a distinct source of worth. We conducted a stringent test in the current study of this contention. We anticipated that there would be substantial links in the current study when considering the correlations that stress, academic burnout, and loss of face would have with depression and feelings of defeat and entrapment. Nevertheless, if it represents a unique and important part of the self-concept, then mattering should still be linked with lower levels of depression and feelings of defeat and entrapment once other associations are taken into account.

In summary, the current study had four main substantive goals in addition to its psychometric focus. Initially, we examined in cross-sectional research the link between mattering and measures of educational stress and academic burnout. Second, this study considered the anticipated negative associations between mattering and facets of involuntary subordination. Third, we explored a possible negative association between mattering and loss of face. Finally, the potential uniqueness of mattering was evaluated by assessing if mattering accounted for significant unique variance in levels of depression, defeat, and entrapment beyond the variance in these adjustment measures accounted for by levels of educational stress, school burnout, and loss of face.

Methods
Participants and Procedure

The total sample comprised 242 adolescent participants from an advanced and a non-advanced high school. Participants were recruited in different high schools in Anshan city in the northeast of China. All participants were born in mainland China. Participants had a mean age of 18.0 years ($SD = 1.4$). There were 111 adolescents from the advanced high school, with 52 boys and 59 girls; and there were 131 adolescents from the

non-advanced high school, with 68 boys and 63 girls. Participants were recruited from the different high schools in Anshan city and were in Grades 9 or 11.

Adolescents volunteered to participate in the study. All of the adolescents contacted agreed to participate. The participation continued after informed consent was obtained from the adolescent participant as well as at least one parent. All the participants were recruited initially via class announcements. Once consent was obtained, the package of questionnaires was administered by a team comprised of the three of the investigators. Note that one author was also on hand in the role of mental health coordinator for the schools. Participants were administered the self-report questionnaires in class groups. Once participants completed the survey, each participant was given a written debriefing form in Mandarin and a small monetary gift (approximately $5 Canadian) for taking part in our study.

Measures

All of the measures described below were translated into simplified Mandarin from the original English versions by the second author and then back translated by a different individual.

General Mattering Scale (GMS; Marcus & Rosenberg, 1987). This 5-item measure assesses perceptions of feeling important and valuable to other people (e.g., "How important are you to others?"). Items are rated on a scale that ranges from 1 (*Not at all*) to 4 (*A lot*). Extensive research has demonstrated that this scale possesses good psychometric properties (Flett et al., 2022; Taylor & Turner, 2001).

Loss of Face Scale (Zane & Yeh, 2002). This 21-item scale measures the degree to which individuals perceive as though they may lose a sense of their social integrity. A sample item is, "When I make a mistake in front of others, I try to prevent them from noticing it." Items are rated on a scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Research has shown that this scale possesses good internal consistency, as well as construct validity (Zane & Yeh, 2002).

Educational Stress Scale for Adolescents (ESSA; Sun et al., 2011). This 16-item scale measures perceived pressure among adolescents with five subscales and a total score. For the purpose of the present study, we used the total pressure score. A sample item includes, "I feel a lot of pressure in my daily studying." The instructions are: "The following statements are about your feelings and attitudes towards your academic achievement and study. For each statement please select the level of agreement that suits you best." Items are then rated on a scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). The psychometric properties of this scale have been well established among over 2,000 secondary school adolescents in Shandong, China (Sun et al., 2011).

Involuntary Subordination Questionnaire (ISQ; Sturman, 2011). This 32-item questionnaire measures feelings of defeat (e.g., "I feel defeated by life"); entrapment (e.g., "I feel trapped by my obligations");

social comparison (e.g., "I feel like an outsider in relation to other people"); and submissive behaviour (e.g., "I avoid starting conversations at social gatherings"). All of the items were derived from four scales, developed by Gilbert and Allan (Allan & Gilbert, 1995, Gilbert & Allan, 1994, Gilbert & Allan, 1998), which loaded on a common factor. Items are rated on a scale that ranges from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Sturman (2011) has demonstrated that the ISQ possesses good reliability and validity. The ISQ has been used in research conducted in China showing that facets of involuntary subordination (i.e., defeat and entrapment) are linked with elevated suicide ideation (see Li et al., 2016).

      Center for Epidemiologic Studies Short Depression Scale (CES-D 10; Andresen et al., 1994). The CES-D 10 is a 10-item short form of the CES-D (Radloff, 1977). This scale assesses symptoms of depression (e.g., "I was bothered by things that usually don't bother me"). Items are rated on a 4-point scale with 0 representing *Rarely or none of the time (less than 1 day)* and 3 representing *Most or all of the time (5-7 days)*. The original CES-D possesses good psychometric properties (Radloff, 1977). In the current study, this short version of the scale had good internal consistency.

      School Burnout Inventory (SBI; Salmela-Aro et al., 2009). This 9-item inventory assesses the following facets of burnout: emotional exhaustion (e.g., "I feel overwhelmed by my schoolwork"); cynicism ("I feel that I am losing interest in my schoolwork"); and inadequacy (e.g., "I often have feelings of inadequacy in my schoolwork"). The sum of the emotional exhaustion and cynicism subscales were used in the current study and will be referred to as burnout throughout this paper. We deemed the items tapping inadequacy to be too laden with self-evaluative appraisals. The SBI possesses good reliability and validity (Salmela-Aro et al., 2009).

Results

Missing Data

      There were few missing responses across all of the item responses provided by our participants (i.e., less than 1%). Items that were missing were assigned by mean value for the item based on the responses of the sample as a whole. The low amount of missing information reflected asking participants to go through their questions and double-check that an item was not answered because it was overlooked.

Descriptive Statistics

      Table 1 presents the means, standard deviations, and alpha coefficients for all of the measures. All of the alphas were .74 or higher, with the exception of the ISQ submissive behaviour subscale, which was relatively low. Therefore, results concerning the ISQ submissive subscale should be interpreted with caution.

      Overall, scores on educational stress were comparable to the mean score reported by Sun et al. (2011). Total ISQ scores were elevated related to the mean score reported by Sturman (2011). The overall mean of 10.21

on the CES-D 10 exceeds the recommended cutoff of 10 identified by Andresen et al. (1994) as representing risk for depression. Thus, overall, there was a considerable amount of distress among our participants.

Table 1

Means, Standard Deviations, and Alphas for All Measures for the Total Sample

Variables	*M*	*SD*	*Alphas*
Mattering	13.20	2.87	.77
Loss of Face	88.75	14.58	.74
Educational Stress (Pressure)	52.58	10.26	.84
Total Involuntary Subordination	84.32	19.43	.91
Defeat	17.81	6.94	.87
Entrapment	21.75	7.04	.84
Social Comparison	22.05	5.81	.79
Submissive Behavior	22.71	4.95	.61
Depression	10.21	5.86	.80
Burnout	23.57	7.40	.78

Note. N = 242.

Confirmatory Factor Analysis

A confirmatory factor analysis (CFA) was performed using maximum likelihood estimation procedures with the five mattering items for the total sample. This CFA was conducted to test for a one-factor solution that has already been established (see Table 2). The model was an adequate fit, χ^2 (5) = 16.147, p = .006, CFI = .962, TLI = .924, SRMR = .0379, RMSEA = .096, 90% CI [.046, .150], p_{close} = .062. As can be seen in Table 2, all items had factor loadings (λ) of .50 or higher. Thus, this analysis confirmed that the GMS is a unidimensional measure among a sample of adolescents in China. This result and the level of internal consistency accords with results found in previous samples (see Flett, 2018b).

Table 2

Factor Loadings for the Items of the General Mattering Scale -- Total Sample

Items	Factor Loadings
How important do you feel you are to other people?	.72
How much do you feel other people pay attention to you?	.74
How much do you feel others would miss you if you went away?	.68
How interested are people generally in what you have to say?	.52
How much do other people depend upon you?	.50

Note. N = 242.

Correlational Analyses

Table 3 presents the correlations among mattering, loss of face, total pressure, total involuntary subordination and its subscales, depression, as well as burnout for the total sample. The results indicated that mattering was negatively correlated with loss of face, total pressure, and total involuntary subordination as well as all of its subscales. Mattering was also negatively associated with depression and burnout. The highest of these correlations involving mattering was with total involuntary subordination and the ISQ social comparison subscale. In addition, loss of face was positively correlated with total pressure, the total ISQ score as well as its subscales, depression, and burnout. Total pressure was positively linked with total ISQ and its subscales, depression, as well as burnout. Moreover, the total ISQ score and its subscales were all positively correlated with depression and burnout. Lastly, depression and burnout were positively correlated with each other.

Table 3

Correlations Among Mattering, Loss of Face, Total Pressure, Total Involuntary Subordination and Its Subscales, Depression, and Burnout -- Total Sample

Measures	1	2	3	4	5	6	7	8	9	10
1. Mattering	–									
2. Loss of Face	-.14*	–								
3. Total Pressure	-.23**	.30**	–							
4. Total ISQ	-.46**	.34**	.62**	–						
5. Defeat	-.38**	.25**	.58**	.91**	–					
6. Entrapment	-.30**	.26**	.64**	.88**	.80**	–				
7. Social Comp	-.46**	.15*	.25**	.61**	.40**	.31**	–			
8. Submissive	-.29**	.43**	.44**	.70**	.54**	.52**	.20**	–		
9. Depression	-.37**	.29**	.52**	.70**	.64**	.62**	.40**	.50**	–	
10. Burnout	-.29**	.24**	.62**	.60**	.60**	.63**	.18**	.42**	.45**	–

Note. N = 242. *p < .05, **p < .01, two-tailed. The abbreviations are: ISQ = Involuntary Subordination Questionnaire; Social Comp = Social Comparison; and Submissive = Submissive Behaviour. Total Pressure refers to scores on the Educational Stress Scale.

Table 4 displays the correlations among all of the variables separately for the advanced and non-advanced high school samples. A similar pattern of correlational results was obtained for the advanced and non-advanced high school samples. We will only focus on the key correlational findings that differed according to the school type. In the non-advanced school, loss of face was not significantly correlated with the defeat and entrapment subscales of the ISQ or with burnout; however, these correlations were significant in the advanced school. Additionally, the ISQ social comparison subscale was not significantly correlated with burnout in the non-advanced school, but this correlation was significant in the advanced school.

Table 4

Correlations Among Mattering, Loss of Face, Total Pressure, Total Involuntary Subordination and Its Subscales, Depression, and Burnout -- Advanced and Non-Advanced High School Samples

Measures	1	2	3	4	5	6	7	8	9	10
1. Mattering	–	-.15	-.25**	-.42**	-.38**	-.24**	-.44**	-.22*	-.38**	-.26**
2. Loss of Face	-.13	–	.23**	.22*	.09	.12	.16	.35**	.25**	.12
3. Total Pressure	-.21*	.40**	–	.66**	.63**	.64**	.21*	.50**	.51**	.66**
4. Total ISQ	-.51**	.48**	.59**	–	.92**	.86**	.57**	.66**	.68**	.59**
5. Defeat	-.38**	.43**	.54**	.89**	–	.79**	.44**	.49**	.62**	.60**
6. Entrapment	-.39**	.44**	.64**	.90**	.81**	–	.22*	.48**	.58**	.61**
7. Social Comp	-.49**	.14	.30**	.65**	.37**	.42**	–	.13	.37**	.11
8. Submissive	-.39**	.53**	.36**	.74**	.59**	.58**	.28**	–	.48**	.42**
9. Depression	-.36**	.35**	.54**	.73**	.67**	.68**	.44**	.52**	–	.44**
10. Burnout	-.32**	.38**	.56**	.61**	.60**	.64**	.26**	.42**	.45**	–

Note. $n = 111$ from advanced school, $n = 131$ from non-advanced school. *$p < .05$, **$p < .01$, two-tailed. Correlations below the diagonal are for the advanced school sample and above the diagonal are for the non-advanced school sample. The abbreviations are: ISQ = Involuntary Subordination Questionnaire; Social Comp = Social Comparison; and Submissive = Submissive Behaviour.

Regression Analyses

A series of hierarchical multiple regression analyses was conducted to explore if mattering would predict depression and the defeat and entrapment subscales of the ISQ, over and above loss of face, total pressure, and burnout. First, we checked for normality of the outcome variables (i.e., depression, defeat, and entrapment) and the distributions all differed from normal. Therefore, we used the robust bootstrapping procedure as it does

not impose the assumption of normality. We generated 5000 bootstrap samples in order to provide estimates, standard errors, as well as 95% bias-corrected confidence intervals.

For the first regression, loss of face, total pressure, and burnout were entered into the first predictor block, with mattering entered into the next predictor block, and with depression entered as the outcome (see Table 5). The first block significantly predicted 31.2% of the variance in depression scores, $F(3, 237) = 35.85$, $p < .001$. Mattering predicted an additional 5% of the variance in depression scores, $F(4, 236) = 33.48$, $p < .001$. Therefore, mattering did predict unique variance in depression over and above loss of face, total pressure, and burnout. Regarding individual predictors, all of the variables uniquely contributed to depression in the expected directions.

For the second regression, loss of face, total pressure, and burnout were again entered into the first predictor block, with mattering entered into the next predictor block, and with defeat entered as the outcome (see Table 6). The first block significantly predicted 44% of the variance in defeat scores, $F(3, 237) = 62.14$, $p < .001$. Mattering predicted an additional 4% of the variance in defeat scores, $F(4, 236) = 54.47$, $p < .001$. Thus, mattering did predict unique variance in defeat over and above loss of face, total pressure, and burnout. Regarding individual predictors, total pressure and burnout uniquely contributed to defeat. In addition, mattering was negatively linked with defeat.

Table 5

Summary of Hierarchical Multiple Regression for Variables Predicting Depression – Total Sample

Variables	R^2	ΔR^2	B	SE B	95% CI
Step 1	.312***				
Loss of Face			.06*	.03	[.003, .11]
Total Pressure			.20***	.04	[.12, .28]
Burnout			.15**	.05	[.06, .27]
Step 2		.050***			
Mattering			-.48***	.11	[-.70, -.27]

*Note. N = 242. *p < .05, **p < .01, ***p < .001.*

For the final regression, loss of face, total pressure, and burnout were once again entered into the first predictor block, with mattering entered next, and with entrapment entered as the outcome (see Table 6). The first block significantly predicted 49.8% of the variance in entrapment scores, $F(3, 237) = 78.22$, $p < .001$. Mattering predicted an additional 1.1% of the variance in entrapment scores, $F(4, 236) = 61.11$, $p < .001$. Hence, mattering did predict unique variance in entrapment above and beyond the other variables. Total pressure and burnout emerged as individual predictors of entrapment, and mattering was negatively associated with entrapment.

Table 6

Summary of Hierarchical Multiple Regression for Variables Predicting the Defeat and Entrapment Subscales of the ISQ – Total Sample

Variables	R^2	ΔR^2	B	SE B	95% CI
Predicting Defeat					
Step 1	.440***				
Loss of Face			.03	.03	[-.02, .08]
Total Pressure			.23***	.05	[.14, .32]
Burnout			.36***	.06	[.23, .48]
Step 2		.040***			
Mattering			-.51***	.12	[-.75, -.27]
Predicting Entrapment					
Step 1	.498***				
Loss of Face			.03	.03	[-.03, .07]
Total Pressure			.27***	.04	[.20, .35]
Burnout			.35***	.06	[.23, .47]
Step 2		.011*			
Mattering			-.28*	.13	[-.52, -.01]

Note. N = 242. *p < .05, **p < .01, ***p < .001.

Discussion

The current study examined several new issues related to individual differences in feelings of mattering among high school students in China. If mattering is indeed an essential way of life (see Flett, 2022), it ought to be reflected by key indicators central to the well-being of our participants. First, we investigated the potential protective role of mattering in terms of the stressfulness of the student experience for young people in China by assessing its link with educational stress and school burnout. Stress was measured in terms of pressure in five school-related areas. Second, we tested the hypothesis that mattering would be associated negatively with involuntary subordination, with a particular emphasis on feelings of not mattering relating to feelings of defeat and entrapment as facets of involuntary subordination. Finally, we evaluated the potential relevance of feelings of loss of face and the related issue of whether mattering would predict unique variance in levels of depression, defeat, and entrapment after taking into account the extent to which educational stress, school burnout, and loss of face predict levels of depression, defeat, and entrapment.

Although it was not our main focus in terms of the specific objectives of this study as outlined above, it can be seen based on the full correlation matrix shown in Table 3 that higher levels of social comparison and feeling defeated and trapped have substantial associations with levels of educational stress and school burnout. These aspects of our findings are important to emphasize because it should be kept in mind that the burned out and pressured high school students in this study also had strong feelings that seem to reflect being demoralized. When viewed from this context, it is clear that stress and academic burnout have considerable impact. It is also evident from the results in Table 3 that higher levels of depression are linked significantly and in the expected direction with all of the other measures in this study, including loss of face, educational stress, and burnout.

The significant association found between depression and burnout is in keeping with the original findings reported by Salmela-Aro et al. (2009) and this finding takes on added importance in light of the evidence noted above that our sample as a whole had a mean level of depression that exceeded the cutoff of 10 for risk of a case of depression. Once again, when viewed from a person-focused perspective, the high school students from China with elevated depression in our study had multiple sources of vulnerability, and this extends to significantly lower levels of mattering to others.

Regarding our first main goal, we showed uniquely that mattering was associated significantly with lower levels of educational stress and with lower school burnout. To our knowledge, this is the first evidence linking mattering with less stress and less school burnout among high school students. At a broad level, these results illustrate how a personal resource with a relational emphasis such as mattering can yield benefits in the academic domain and this accords with evidence summarized in Flett (2018a) on mattering at school and how it can be a key protective element

for students in challenging circumstances. More specifically, mattering deserves consideration as a key personal resource in conceptual frameworks such as the study demands-resources model of student engagement and burnout.

The second goal of this study was to evaluate a possible link between mattering and involuntary subordination. We replicated and extended recent research by Chen et al. (2022) by showing that general mattering was linked with involuntary subordination, both overall and in terms of the four facets of involuntary subordination. Chen et al. (2022) focused on fear of not mattering and two facets of insubordination (i.e., entrapment and defeat), but in university students. It was found similarly in the current study that low levels of general mattering among high school student were associated with entrapment and defeat. Parenthetically, the entrapment subscale included items tapping external entrapment (e.g., I feel trapped by my obligations. I feel trapped by other people) and internal entrapment (e.g., I feel trapped inside my self. I would like to get away from who I am and start over again). A link between lower levels of mattering and internal entrapment is especially noteworthy because it attests to the likely identity concerns, self-focus, and self-doubts of young people who feel like they don't matter to other people. It was also found in the current study that links were evident between lower levels of general mattering and indices reflecting submissiveness and social comparison. Regarding these other facets of involuntary subordination, the negative association found between mattering and scores on the social comparison subscale signify that Chinese high school students who tend to negatively appraise themselves in social comparison terms also have a propensity to feel like they don't matter to others. The students in this study are likely to be highly cognizant of being in competition with each other; comparative standing is important to them in terms of their future educational opportunities and how it reflects on their families. Our results suggest that not comparing favorably has implications in terms of feelings of not being valued by other people. This may extend to a sense of comparison-based mattering and feelings of not mattering as much as their peers seem to matter to other people. If viewed from this perspective, the tendency to cling to peers to get a sense of mattering described by Rosenberg (1985) may also reflect a need to compare with these same peers.

The association between mattering and involuntary subordination can be interpreted in a relatively straightforward manner: when people feel defeated, entrapped, submissive, and inferior to others, it is perhaps not surprising that they would also question how much they matter to others and whether they are valued and regarded positively by other people. Insofar, as both involuntary subordination and a lack of mattering are indicative of lower perceived status, we would expect the constructs to be associated with one another. Another way to interpret the association between involuntary subordination and reduced levels of mattering found in the current study is that a portion of subordinate high school students are

potentially quite dependent on others, and yet they lack a sense of being significant to other people. A key intervention goal for these young people may be to foster less susceptibility to external influence by focusing on developing less sensitivity to feedback and controlled reactions to external feedback; ideally, they would instead have a sense of self-determination and mastery so that they are not externally oriented toward relationships that leave them feeling a lack of effectiveness and agency and do not provide them with a sense of being valued. In support of this interpretation, Sturman (2011) found that involuntary subordination was related to higher levels of dependency and neediness, and higher self-efficacy was related to lower levels of involuntary subordination.

The third focus in this research was largely exploratory. Specifically, we found a small negative association between mattering and loss of face in this sample. It seems that for the most part, mattering and loss of face, at least as measured in the current study, are distinct constructs that are not strongly associated among high school students in China. However, as noted above, the loss of face is similar to mattering in that both relate to depression and associated experiences such as feeling defeated and feeling trapped.

The key overarching goal in the current study was to further examine the potential uniqueness of mattering as a predictive factor when pitted against other influential factors. A series of regression analyses established that considerable variance in levels of depression, defeat, and entrapment was predicted by individual differences in levels of educational stress, school burnout, and loss of face. In fact, the variance that was predicted by these variables ranged from 31.2% to 49.8%. However, we found in all three instances that mattering predicted significant unique variance. Thus, mattering was associated uniquely with lower levels of depression, defeat, and entrapment. These results attest further to the notion that the presence of mattering has a unique protective role as a positive psychological resource, and it represents a unique source of vulnerability when adolescents feel like they don't matter to others. The other results described above suggest that when trying to further understand the role of mattering and its nomological network, mattering may serve uniquely as a buffer of the link between stress and distress in future research that tests possible mediational models.

Given the apparent power of mattering, both in the current study and in general (see Flett, 2022), research is needed on a global level to evaluate its unique relevance. The ultimate hope with research of this nature is that the findings will provide the impetus for applied interventions designed to improve the life experiences of adolescents. It follows from the current study that promoting mattering among high schools seems quite viable in terms of improving their resilience and ability to adapt to challenging and stressful circumstances. This topic is discussed at length in a previous chapter on mattering as a potential foundation of school-based mental health programs (see Flett, 2018a). One key to building resilience is to foster hope

among young people and, as noted earlier, mattering is a factor that is related directly to higher levels of hope among adolescents (see Somers et al., 2022). Given that mattering can be incorporated into effective strategies and practices, this emphasis fits well with the need to find specific pathways to improvement.

Some limitations of the current work should be considered. Most notably, the results are based on cross-sectional data and causal assumptions are not warranted. It must be reiterated that associations were found and it cannot be presumed that mattering was a causal contributor. Also, of course, other variables likely come into play when it comes to the associations described in the current paper. Similarly, on a related note, our results are limited by not having a longitudinal element; given the potential applied significance of our results, it seems evident that longitudinal research is clearly and urgently needed. We should also caution that the current results apply to high school students in China and generalizability to students from other countries needs to be empirically evaluated rather than presumed.

Future research is clearly needed on the developmental antecedents of levels of mattering among Chinese high school students. There are several promising options to consider. For instance, there is a growing body of evidence on positive forms of parental involvement (e.g., Wei et al., 2022) and it is quite conceivable that feelings of mattering are rooted in certain familial experiences. Evidence has suggested that parental practices focused on building self-worth can be quite beneficial (see Ng et al., 2019). It is worth considering in future research whether parents are also engaged in specific practices that build a sense of mattering that boost a sense of importance and significance in addition to the current practices that are more in line with building self-esteem. On a related note, given that mattering can also be examined in the school and community contexts, broader experiences also merit consideration.

In summary, the results of the current study established that mattering seems to be a key resource for high school students in China in that it is linked with lower levels of academic burnout and academic pressure and students who feel like they matter are less likely to report feelings related to defeat, entrapment, submissiveness, and social comparison. It can be inferred from our results that preventions and interventions that are successful in boosting levels of mattering among high school students from China should be incorporated into stress management programs and broader interventions designed to potentially enhance resilience and adaptability. Calls to promote mattering as part of the foundation of the mentally healthy school (see Flett, 2018a) seem both appropriate and essential. Additional evidence indicated that mattering is a unique predictor even after taking into account significant sources of vulnerability and risk. Parenthetically, the relevance and usefulness of mattering was potentially understated in this study because we focused only on general mattering and it is reasonable to conclude that a specific

emphasis on mattering at school is especially relevant when considering ways to alleviate educational stress and school burnout.

Availability of data and material
Data will be made available upon reasonable request.

Conflict of Interest
All authors declare that they have no conflict of interest.

Author's contributions
All authors significantly contributed to the research and preparation of manuscript.

Informed Consent
Informed consent was obtained from all participants prior to participating and being included in the study.

Ethics Approval
This research was reviewed and approved for compliance to ethics protocols by the Human Participants Review Committee (HPRC) at York University.

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