



Dispositional Mindfulness Moderates the Relationship Between Family Risks and Chinese Parents' Mental Health

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Abstract

Objectives Family risk research has established the deleterious effects of co-occurring family risks on mental health outcomes in parents of children with developmental disabilities, but only a paucity of research has explored their impacts on parents of typically developing children, especially in Eastern cultural contexts. Moreover, little is known about whether individual differences in dispositional mindfulness may buffer the negative impacts of the accumulation of family risks on mental health. This study examined the potential stress-buffering effect of dispositional mindfulness on the relationship between cumulative family risks and mental health in Chinese parents.

Methods A total of 2237 Chinese parents (M age = 38.46 years, SD = 4.43 years) of school-aged children completed an online questionnaire. Parents self-reported their dispositional mindfulness and mental health. An overall and two domains (i.e., socio-economic status (SES) related and parenting-related risks) of cumulative risk indices were created by the composite of six risk factors (i.e., low household income, unemployment, low educational level, high parenting stress, and severe child internalizing and externalizing symptoms).

Results Higher scores on overall family risks, as well as SES-related and parenting-related risks, were related to poorer mental health in parents. Moreover, dispositional mindfulness moderated the relationship between parenting-related risks and parental mental health, such that the negative impact of parenting-related risks was attenuated for parents with high dispositional mindfulness.

Conclusions These findings provide additional support for the utility of mindfulness-based interventions to protect mental health of parents confronted with numerous family risk factors, especially those with heightened parenting-related risks.

Keywords Dispositional mindfulness · Cumulative family risks · Mental health · Parents

Research indicates that increased family stressors have deleterious impacts on parental mental health (Bagner et al. 2013; Gross et al. 2009). There is also evidence that family stressors do not occur in isolation, and the accumulation of several risks

leads to numerous negative psychological outcomes in parents (Appleyard et al. 2005; Evans et al. 2013). Mental health problems in parents can further undermine parenting competence (Dix and Meunier 2009) and, in turn, result in poor developmental outcomes in children (Borja et al. 2019; Goodman et al. 2011). Thus, identifying potential factors that may mitigate the adverse impact of cumulative family risks on parental mental health is important. Dispositional mindfulness has emerged as an important resilience factor that can protect against stress and enhance psychological well-being (Brown et al. 2007; Tomlinson et al. 2018).

A range of family risk factors are linked to poor parental mental health (Gross et al. 2009; Tomeny 2017). For example, the stress resulting from the demands of being a parent has been found to impact the psychological well-being of parents (Hastings et al. 2006; Tomeny 2017). Extant studies on parenting stress have mainly focused on parents of children with

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special needs, such as parents of children with autism spectrum disorder (Rodriguez et al. 2019; Schiltz et al. 2018) and other developmental disabilities (Woodman et al. 2015). However, limited studies have gone further to explore the potentially detrimental impacts of parenting stress on mental health outcomes of parents with typically developing children. The few studies available have indicated that perceived parenting stress was correlated with high levels of depressive symptoms in mothers with typically developing children (Huang et al. 2014; Thomason et al. 2014). Indeed, parenting is generally stressful for parents, and even parents with normal children may experience surging degree of parenting stress from time to time (Deater-Deckard 1998), which has been implicated in their mental outcomes (Kwok and Wong 2000).

Parental mental health problems can also be exacerbated by child characteristics, such as child behavior problems (Bagner et al. 2013; Shaw et al. 2016). A study of 289 boys from low-income families showed that toddlers' disruptive behaviors predicted elevated trajectories of maternal depressive symptoms over an 8-year period (Gross et al. 2009). Similarly, Ciciolla et al. (2014) found that higher levels of child internalizing problems were related to more distress perceived by mothers. More distally, the negative association between economic hardship and parental impaired mental health outcomes has been repeatedly established (Lee et al. 2011). Other demographic risk factors, such as low educational levels (Boardman et al. 2015) and unemployment (Jefferis et al. 2011), have been shown to predict psychological problems, such as depressive symptoms.

When examining family stressors that may impair parental mental health, it is becoming increasingly apparent that parental mental health is shaped by co-occurring stressors in families and the ways that stressors "stacking up" contribute to a cumulative burden rather than a single risk (Borja et al. 2019). Parents often contend with numerous stressors simultaneously rather than isolated instances of contextual risks. For example, low-income parents frequently have children with problem behaviors (Lee et al. 2011). Financial hardship, parental unemployment, and children with challenging temperaments interact to increase mothers' depressive symptoms (Shimizu and Teti 2018). To capture the cumulative nature of family risks, researchers often calculate the family risk index by dichotomously identifying a set of candidate indicators and then summing across multiple risk factors (Appleyard et al. 2005). It has been proposed that the cumulative risk index reflects the natural covariation of family stressors (Evans et al. 2013) and predicts maladaptive outcomes better than any single risk factor alone (Gross et al. 2009; Shaw et al. 2016).

Although it is evident that parents with relatively more family stressors are more susceptible to mental health concerns (Lee et al. 2011; Shimizu and Teti 2018), not all parents who experience stressful life events develop poor psychosocial outcomes. According to the diathesis-stress model of

psychopathology, individuals with different dispositions will respond differently to life stress (Monroe and Simons 1991). Thus, it is of great importance to identify dispositional factors that can mitigate the adverse effects of family stress on parental mental health.

Mindfulness may be a protective factor against family stress and negative life experiences in parents (Conner and White 2014; Dixon and Overall 2016; Hicks et al. 2018). Mindfulness refers to "the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment" (Kabat-Zinn 2003, p. 145). It has been conceptualized to possess both state-like and trait-like characteristics (Baer et al. 2006; Bishop et al. 2004; Brown and Ryan 2003). The trait of mindfulness, or dispositional mindfulness, reflects individual differences in the inclination to be mindful in daily life (Brown and Ryan 2003). High levels of dispositional mindfulness have been associated with high levels of psychological well-being and life satisfaction, as well as low levels of anxiety and depressive symptoms (Bränström et al. 2011; Brown et al. 2007; Tomlinson et al. 2018). Mindfulness can also be a practice-based skill that one can learn to exercise in daily life (Bishop et al. 2004). To help people enhance their abilities to be mindful, a variety of interventions, such as Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn 1982) and Mindfulness-Based Cognitive Therapy (MBCT; Segal et al. 2002), have been developed. These interventions have been found to be effective in reducing anxiety and depressive symptoms and promoting general well-being in community samples (Hofmann et al. 2010; Keng et al. 2011). There is also evidence that the beneficial effects of mindfulness interventions on well-being may be mediated by improvements in dispositional mindfulness (Nykliček and Kuijpers 2008).

According to the transactional theory of stress and coping (Lazarus and Folkman 1984), stress emerges from an individual's appraisal of an event as threatening, and the environmental demands exceed the available coping resources. Mindful attention is characterized by receptive processing of internal and external stimuli, which may facilitate more benign appraisals of stressors (Brown et al. 2007; Garland et al. 2011). Individuals with higher dispositional mindfulness may be more likely to cope with stress in adaptive ways. For example, higher dispositional mindfulness is linked to less rumination (Tomlinson et al. 2018), lower emotional suppression (Tamagawa et al. 2013), and less frequent use of avoidant coping strategies, such as denial and behavioral and mental disengagement (Weinstein et al. 2009). Moreover, by fostering a nonjudgmental and accepting perspective of one's experiences, mindfulness can decrease one's negative emotional responses to stressful life events (Creswell and Lindsay 2014). Hence, dispositional mindfulness may be a valuable coping resource to offset perceived stress, thus buffering the

detrimental impacts of family stress on mental health (Bränström et al. 2011; Ciesla et al. 2012).

Research suggests that dispositional mindfulness may moderate the deleterious effects of family risks on parental mental health. For example, dispositional mindfulness has been found to alleviate mental health problems resulting from stress associated with parenting children with autism spectrum disorders (Cachia et al. 2016; Conner and White 2014). Chan and Lam (2017) found that parental dispositional mindfulness ameliorated the association between teacher-reported child behavior problems and parental distress. Additionally, in a high-risk sample with poverty and violence exposure, expectant parents with greater abilities to be mindful self-reported fewer depressive and trauma symptoms (Hicks et al. 2018). It seems that being mindful enables parents to pay attention to their present experiences with a more open, accepting attitude, and therefore, they are less strongly impacted by family risks and experience greater well-being (Baer et al. 2006; Kabat-Zinn 2003).

However, only a paucity of research has examined whether dispositional mindfulness buffers the deleterious effects of cumulative family risk exposure on psychological distress in parents; moreover, the findings appear to be mixed (Khan and Laurent 2019; Neece et al. 2019). Specifically, Khan and Laurent (2019) examined the moderating role of dispositional mindfulness in the relationship between postnatal family stressors and maternal well-being. Mothers self-reported the number of adverse life events they experienced and the severity of their anxiety and depressive symptoms at 3, 6, 12, and 18 months postnatal. Mothers who experienced less stressful life events or had higher dispositional mindfulness self-reported fewer psychopathological symptoms. However, dispositional mindfulness did not attenuate the strength of the association between life stress and maternal psychopathology. Another study investigated the effects of MBSR on mental health outcomes in a sample of Latino parents (Neece et al. 2019). These Latino parents were exposed to multiple family stressors, such as children with developmental delays, low family income, and low educational levels. Results indicated that MBSR helped alleviate depressive symptoms and improve life satisfaction for Latino parents exposed to cumulative stressors. Although this study did not exclusively focus on dispositional mindfulness, researchers have argued that it can be enhanced through mindfulness training (Quaglia et al. 2016). More investigations about the buffering role of mindfulness are needed to help parents cope with multiple family stressors and, as a result, improve their well-being.

Most research investigating the stress-buffering role of dispositional mindfulness has been conducted in Western settings (e.g., Hicks et al. 2018; Khan and Laurent 2019); however, little is known about this issue in a non-Western context. Culture shapes the degree of perceived stress of each family risk factor, and thus, the potential value of dispositional

mindfulness in mitigating the impacts of family risks on parent mental health is likely to vary depending on the cultural context (Gao and Han 2016; Kwok and Wong 2000; Wei and Chen 2014). For example, compared to Western parents, Chinese parents hold strong beliefs regarding responsibilities for coaching their children to behave properly, achieve academically, and develop harmonious relationships with others (Wei and Chen 2014; Wong et al. 2009). Chinese parents' views of themselves are contingent on their children's performance (Ng et al. 2014). These cultural influences may bring additional stress to Chinese parents (Kwok and Wong 2000; Liu and Wang 2015). Additionally, traditional Confucian beliefs heavily emphasize forbearance, self-control, and suppression of negative emotions (Wei et al. 2012). Therefore, even when experiencing high levels of family stress, Chinese parents tend to employ culturally congruent strategies, such as suppression, to cope with their stress, which may result in distinct dynamics between family stress and parental mental health (Wei and Chen 2014). Considering significant cultural differences, more research is required to better understand how parental dispositional mindfulness may mitigate the negative influence of family risks on parental mental health in a Chinese context.

The current study investigated the relationships between family risks, dispositional mindfulness, and mental health in a sample of Chinese parents. First, it was hypothesized that higher levels of family risks and lower levels of mindfulness would relate to poorer mental health in parents. Second, it was proposed that parental dispositional mindfulness would moderate the relationship between family risks and parental mental health such that higher dispositional mindfulness would attenuate the negative effects of family risks on mental health.

Method

Participants

A total of 2237 Chinese parents ($M = 38.46$ years, $SD = 4.43$ years) of school-aged children ($M = 9.40$ years, $SD = 1.78$ years) participated in the study. Participants were recruited via flyers that were distributed throughout communities and electronically through communication websites in mainland China. Among those who participated, 77% of the parents were mothers, and approximately half (49.1%) of the children were girls. Almost all parents (99.8%) were the children's biological parents. Most of the parents were Han Chinese (93.8%), were employed full or part-time (81%), and had received a high school education or higher (80%). A proportion of 29.7% of the families had monthly household incomes below the national poverty level (i.e., 4,000 RMB, or approximately 570 USD; China Bureau of Statistics 2019).

Procedures

All materials and procedures were reviewed and approved by the university's institutional review board (IRB). Participating parents were electronically introduced to the content, instructions, and confidentiality of the general project. After signing an informed consent form, parents were requested to complete a series of questionnaires via online Qualtrics surveys. Participating families were offered detailed feedback regarding parenting and child development in appreciation of their participation.

Measures

Individual Stressor Measures

Socioeconomic Indicators Sources of family individual stressors included a composite measure of family demographic information derived from monthly household income, parents' educational level, and employment status.

Parenting Stress The Parenting Stress Inventory-Short Form (PSI-SF; Abidin 1995) is a 36-item self-report questionnaire, which assesses the caregiver's perceived stress related to his or her role as a parent. Each item is rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) that provides a comprehensive assessment of overall parenting stress. The original PSI-SF is well-established (Abidin 1995), and the Chinese version yields good reliability and validity (Yeh et al. 2001). The internal consistency for overall parenting stress in the current sample was $\alpha = .94$.

Child Internalizing and Externalizing Problems The Brief Problem Monitor-Parent Form (BPM-P; Achenbach et al. 2011) was used to assess 6- to 18-year-old children's psychopathological symptoms. Parents rate the degree to which each item applies to their children on a 3-point Likert scale (1 = not true, 3 = very true). The BPM-P consists of 19 items and has three subscales: attention problems, internalizing problems, and externalizing problems. For the purpose of the current study, the 6-item internalizing and 7-item externalizing problem subscales were used. The Chinese version of the BPM-P was forward- and back-translated by three Chinese psychology professors who are fluent in Chinese and English. The back translation was checked by the original author to ensure that all items retained their original meaning. In the current study, the internal consistency of the BPM-P was $\alpha = .81$ for internalizing problems and $\alpha = .76$ for externalizing problems.

Family Risks

An overall family risk index was created by a composite of six risk factors frequently used in the existing literature on

cumulative family risks (Appleyard et al. 2005; Gao and Han 2016; Shaffer et al. 2012). Three risk factors captured the demographic characteristics of the families: income (i.e., below 4,000 RMB, 29.7% of the sample), parental educational level (i.e., middle school education or less, 20.0% of the sample), and employment status (i.e., unemployment, 19.1% of the sample). The other three criteria captured the psychosocial risk of the parent and child: parenting stress (i.e., moderate to high parenting stress, 17.6% of the sample) and child's internalizing and externalizing psychopathological symptoms (i.e., moderate to severe internalizing and externalizing problems, 4.9% and 5.8% of the sample, respectively). Then, a SES-related risk index was created by adding up the risk scores of family income, parental educational level, and employment status. A parenting-related risk index was made by summing the risk scores of parenting stress and child internalizing and externalizing problems.

For each risk factor, families received a score of "1" if they reached the criterion described above and "0" if they had no such risk. A total family stress index (ranging from 0 to 6) was calculated by summing the scores of all risk factors; 46.6% of the sample had no risk factor, 26.7% had one risk factor, 16.9% had two risk factors, 7.4% had three risk factors, 2.0% had four risk factors, 0.3% had five risk factors, and 0.1% had six risk factors.

Parental Mental Health

The Medical Outcomes Study 36-item Short Form Health Survey (SF-36; Ware Jr and Sherbourne 1992) is a widely used instrument to assess an individual's physical and mental health. The SF-36 has 8 subscales and can be summarized into two components: the physical component summary (PCS) and the mental component summary (MCS). For the purpose of the current study, we focused on parents' mental health status measured by the MCS. The MCS consists of four subscales: vitality (VT), social functioning (SF), role limitations due to emotional health problems (RE), and mental health (MH). Each subscale has 2-10 items, and the subscale score is calculated by summing all items and then transforming the raw scale scores to a 0-100 scale, with a higher score indicating better mental health. The MCS was then derived by aggregating the transformed scores from these four SF-36 subscales. The original SF-36 demonstrated good reliability and validity (Ware Jr and Sherbourne 1992), and the Chinese version has shown satisfactory psychometric qualities (Li et al. 2002). The internal consistency of the SF-36 MCS in the current study was good ($\alpha = .86$).

Dispositional Mindfulness

The Five Facet Mindfulness Questionnaire (FFMQ; Baer et al. 2006) was used to estimate parental dispositional mindfulness.

The FFMQ consists of 39 items and measures five aspects of individuals' general tendency to be mindful in daily life: observing, describing, acting with awareness, nonjudging of inner experiences, and nonreactivity to inner experiences. Participants were instructed to rate the extent to which each statement applied to them using a 5-point Likert scale (1 = never or very rarely true, 5 = very often or always true). The overall score was obtained by summing all items, with higher scores indicating higher dispositional mindfulness. The Chinese version of the FFMQ is widely used and has exhibited good reliability (Deng et al. 2011). For the current study, the internal consistency of the FFMQ was good ($\alpha = .74$).

Data Analyses

Prior to analysis, a missing value analysis was performed in SPSS Version 21. The missing data rates were low, ranging from 0 to 13.3%, with most due to participants' nonresponse. To estimate the pattern of missing values, Little's (1988) Missing Completely at Random (MCAR) test was conducted, and the results suggested that the data were consistent with the pattern of MCAR ($\chi^2(28) = 28.27, p = .45$). Missing data were multiply imputed with the R package *mice* (van Buuren and Groothuis-Oudshoorn 2011). A total of 100 imputations were implemented. The moderation model was estimated in each of the 100 imputed datasets, and the results were pooled with Rubin's rule (Rubin 1987).

The preliminary analyses were conducted to evaluate the means, standard deviations, and correlations of the study variables and the potential group differences for study variables based on demographic characteristics. Then, a confirmatory factor analysis (CFA) was conducted to assess whether the overall cumulative family risk index or the combination of SES-related and parenting-related risk indices would better represent family risks. The CFA was conducted using the R package *lavaan* (Rosseel 2012). Analyses were based on weighted least squares estimations and indicators of model fit were chi-square values (χ^2) with degree of freedom (*df*), root mean square error of approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR) as recommended by Schreiber et al. (2006). Nonsignificant χ^2 values, RMSEA values less than 0.05, the CFI greater than 0.95, and SRMR values less than 0.08 suggested a good fit (Hu and Bentler 1999). Finally, the moderation analyses were performed with R. A moderating effect was indicated when the interaction term between family risks and parental dispositional mindfulness was significant and the 95% confidence interval (CIs) did not include zero. The conditional relationship between family risks and parental mental health was examined at low (-1 SD below the mean) and high ($+1$ SD above the mean) levels of parental dispositional mindfulness. R codes of CFA and moderation analyses refer are available in [supplemental materials](#).

Results

The descriptive statistics and zero-order correlations of the study variables are presented in Table 1. Overall family risks, as well as SES-related and parenting-related risks, were negatively correlated with parental mental health and parental dispositional mindfulness. In addition, parents' dispositional mindfulness was positively associated with their mental health.

Independent sample *t* tests showed that child gender was significantly related to parental dispositional mindfulness ($t(1969) = -2.34, p = .025$) and parenting-related stress ($t(1937) = 2.21, p = .027$), with the parents of girls self-reporting higher dispositional mindfulness and lower parenting-related risks. Significant parental gender differences were observed for overall family risks ($t(1937) = -5.74, p < .001$) and SES-related risks ($t(2235) = -6.57, p < .001$), with the scores for overall and SES-related risks of mothers higher than those of fathers. Furthermore, child age was positively correlated with overall family risks ($r = .10, p < .001$) and SES-related risks ($r = .13, p < .001$), but negatively correlated with parental dispositional mindfulness ($r = -.05, p = .02$). Parental age was negatively correlated with overall family risks ($r = -.11, p < .001$) and SES-related risks ($r = -.09, p < .001$), but positively correlated with parents' mental health ($r = .06, p = .010$) and dispositional mindfulness ($r = .12, p < .001$). Thus, the age and gender of children and parents were controlled in the moderation model.

Results of the CFA indicated that the single-factor (i.e., overall family risks) model did not fit the data, $\chi^2(9) = 83.38, p < .001$; SRMR = .18, CFI = .74, RMSEA = .07. The model with two factors (i.e., SES-related and parenting-related risks) provided a good fit to the data, $\chi^2(8) = 15.97, p = .042$, SRMR = .02, CFI = .97, RMSEA = .02. All item loadings were significant. Thus, the SES-related and parenting-related risk factors were used in subsequent analyses to indicate family risks.

Moderation analyses were conducted to investigate whether parental dispositional mindfulness moderated the relationship between SES-related and parenting-related risks and parental mental health. The children's and parents' ages and gender were included in the model as covariates, as suggested by the preliminary analyses.

Both the main and interaction effects of parenting-related risks and parental dispositional mindfulness were statistically significant, indicating that parental dispositional mindfulness moderated the relationship between parenting-related risks and parental mental health (Table 2). We further probed the conditional effects of parenting-related risks on parental mental health. As shown in Fig. 1, although an overall effect for parenting-related risks was observed, the negative association between parenting-related risks and parental mental health was stronger for parents with lower dispositional mindfulness

Table 1 Means, standard deviations, and correlation coefficients for the study variables

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Child age	9.40	1.78								
2. Child gender ^a	0.48	0.50	-.03							
3. Parent age	38.46	4.43	.28**	.02						
4. Parent gender ^a	0.77	0.42	.01	.04	-.21**					
5. Overall family risks	0.93	1.08	.10**	-.01	-.11**	.13**				
6. SES-related risks	0.69	0.90	.13**	.04	-.09**	.14**	.83**			
7. Parenting-related risks	0.28	0.60	.01	-.05*	-.02	.03	.60**	.05*		
8. Parental mental health	295.69	64.05	.01	.01	.06**	.01	-.30**	-.14**	-.33**	
9. Parental mindfulness	124.44	11.49	-.05*	.05*	.12**	.01	-.31**	-.20**	-.26**	.43**

^a Gender was coded as 0 for males and 1 for females

* $p < .05$, ** $p < .01$

($B = -28.51$, $t = -11.31$, $p < .001$) than for parents with higher dispositional mindfulness ($B = -13.08$, $t = -2.96$, $p = .003$). However, neither the main effect of SES-related risks nor its interaction with parental dispositional mindfulness was significant.

In addition, as previous studies (e.g., Gouveia et al. 2016) and the current results suggested significant gender differences in mothers' and fathers' dispositional mindfulness, further exploratory analyses were performed to examine whether the interactions between family risks and dispositional mindfulness varied by parental gender. However, moderation analyses demonstrated that parental gender did not moderate these relationships.

Discussion

The current study investigated the interactive effects of family risks and dispositional mindfulness on parental mental health using a cumulative risk approach in Chinese society. Results showed that overall family risks, as well as SES-related and parenting-related risks, were associated with poor mental health in Chinese parents. Moreover, parental dispositional mindfulness moderated the relationship between parenting-related risks and parental mental health in that the negative association between parenting-related risks and mental health was stronger for parents with lower dispositional mindfulness. The findings promoted our understanding of how dispositional mindfulness might protect Chinese parents who were exposed to multiple family stressors, especially parenting-related stressors, from mental health problems.

Table 2 Results of moderation analyses on parental mental health

Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>R</i> ²	<i>F</i>
Model results					.23	62.56***
Intercept	68.49	21.36	3.21	.001		
SES-related risks	-6.79	17.50	-0.39	.698		
Parenting-related risks	-104.33	26.47	-3.94	< .001		
Parental mindfulness	1.83	0.14	12.80	< .001		
Child age	1.16	0.75	1.54	.124		
Child gender	-1.59	2.52	-0.63	.528		
Parent age	-0.05	0.32	-0.15	.879		
Parent gender	1.66	3.08	0.54	.591		
SES-related risks × parental mindfulness	0.02	0.14	0.11	.912		
Parenting-related risks × parental mindfulness	0.67	0.22	3.02	.003		
Conditional effects of parenting-related risks						
- 1 SD parental mindfulness	-28.51	2.52	-11.31	< .001		
Mean parental mindfulness	-20.80	2.53	-8.21	< .001		
+ 1 SD parental mindfulness	-13.08	4.42	-2.96	.003		

* $p < .05$, ** $p < .01$, *** $p < .001$

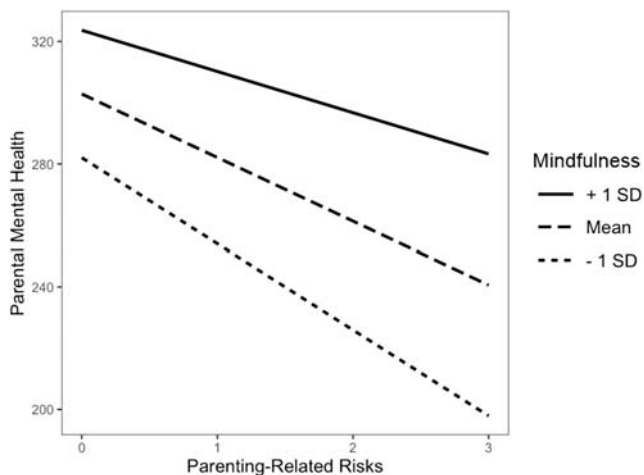


Fig. 1 Interaction between parenting-related risks and mindfulness on parental mental health

As expected, family risks, including overall, SES-related, and parenting-related family risks, were found to be related to poor mental health among Chinese parents. These results support the cumulative risk hypothesis (Appleyard et al. 2005; Evans et al. 2013), which proposes that the accumulation of several risk factors increases the probability of adverse psychological outcomes in parents relative to any single specific risk. Childcare, under the constraint of low SES, is a stressful responsibility (Tomeny 2017; Wei and Chen 2014), and parents with limited economic and social resources can experience additional pressure (Boardman et al. 2015; Jefferis et al. 2011). Additionally, child behavior problems can introduce substantial stress into parents' everyday lives, including sleep deprivation, time demands, and constant concerns about their children's safety and well-being (Finegood et al. 2017; McQuillan et al. 2019). All these stressors may burden parents and corrode their mental health. Using a Chinese sample, this study found that cumulative family risks were related to poor mental health among Chinese parents of school-aged children. Such findings are congruent with those of previous studies conducted in Western samples (Borja et al. 2019; Evans et al. 2013; Hickey et al. 2019).

Parents in Chinese societies may utilize certain culturally relevant strategies, such as forbearance and suppression of negative emotions, to cope with life stress (Wei et al. 2012). Moreover, Chinese parents tend to place the onus of children's development on themselves (Wei and Chen 2014; Wong et al. 2009) and base their worth on it (Ng et al. 2014). All these cultural influences can exacerbate the mental health problems of parents, especially when they have to parent children without sufficient financial or social resources. The literature has indicated that Chinese parents are often reluctant to seek help from people outside the family when faced with difficulties (Ye et al. 2011). It is, therefore, critical to identify dispositional factors that can potentially protect parents from the negative impacts of various family risks.

The current study found that dispositional mindfulness moderated the relationship between parenting-related risks and parental mental health. Specifically, the relationship between parenting-related risks and poor mental health was substantially weaker among parents with higher levels of dispositional mindfulness than among parents with lower levels of dispositional mindfulness. In line with the diathesis-stress theory (Monroe and Simons 1991), parents with different dispositional characteristics (e.g., mindfulness) respond differently to adverse circumstances. Our results indicate that higher parental dispositional mindfulness could attenuate parents' stress experience regarding their role of being a parent and increase their abilities to maintain greater psychological health even in the cumulative family risk context, which supports the stress-buffering role of mindfulness (Dixon and Overall 2016; Weinstein et al. 2009). The current study also adds to the literature by revealing that dispositional mindfulness may buffer the negative effects of not only a single specific stressor, such as parenting stress (Cachia et al. 2016; Conner and White 2014) or child behavior problems (Chan and Lam 2017), but also the accumulation of multiple family stressors.

Parents who are more mindful may be more resilient to the negative influence of family stress. By fostering a nonjudgmental perspective toward current experiences, mindful parents might reduce threat appraisals to daily stress (Bränström et al. 2011; Ford and Shook 2019). Mindfulness might also facilitate the awareness of family risks and, thus, the application of adaptive responses that lead to increased well-being (Teper et al. 2013). Mindful parents tend to be aware of and are able to not judge their sensations, thoughts, and emotions (Baer et al. 2008). These traits can be valuable coping resources to help parents deal with numerous stressors within family life (Whitebird et al. 2013). When faced with numerous family stressors, a higher degree of mindfulness enables parents to first be aware of and then effectively manage their reactions to family stress before experiencing cascades of negative emotions (Dixon and Overall 2016; Teper et al. 2013). Our findings correspond to those of some research with Western samples (Cachia et al. 2016; Hicks et al. 2018; Neece et al. 2019) and provide some support for the stress-buffering role of dispositional mindfulness in the relationship between family risks and parental mental health in Chinese societies.

Notably, the results showed that parents' dispositional mindfulness only buffered the negative impact of parenting-related but not SES-related risks on their mental health. It may be that family risk factors exert different influence on parental mental health, such that the health outcomes of parents may be directly associated with parenting-related risks but indirectly associated with SES-related risks. Research has shown that the effect of distal family risk factors, such as low SES, on individual's psychological outcomes may operate via proximal family risk factors, such as negative parenting (Flouri et al. 2010; Kwon and Wickrama 2014). This possible pathway warrants further

investigation to help us better understand the underlying mechanisms through which different family risk factors may impact individuals' mental health outcomes.

The findings of the current study may inform the potential utility of mindfulness-based interventions for parents disturbed by high family risks. Interventions, such as MBSR and MBCT, have been shown to be efficacious for improving one's dispositional mindfulness and, as a result, producing health benefits (Bränström et al. 2011; Hofmann et al. 2010; Keng et al. 2011). For example, Neece et al. (2019) demonstrated that standard MBSR effectively reduced depressive symptoms and enhanced the life satisfaction of 37 Latino parents from disadvantaged SES backgrounds. Arch and Craske (2006) found that mindful breathing, which was adapted from the sitting mindfulness meditation exercises used in MBSR and MBCT, decreased the intensity and negativity of emotional reactions to stress and increased the willingness to keep in touch with aversive circumstances. In fact, it has been documented that frequent mindfulness practice, leading to increased states of mindfulness, may contribute to improvements in dispositional mindfulness over time (Quaglia et al. 2016). Through repeated mindfulness practice, parents can learn to increase their acceptance of difficult situations and be more aware of their negative emotions in a nonjudgmental and objective manner (Shapiro et al. 2006). A higher degree of mindfulness can potentially help parents reappraise and cope with family stress, which in turn may improve their mental health (Dixon and Overall 2016; Ford and Shook 2019).

Dispositional mindfulness could act as a strength or resilience factor to promote the efficacy of interventions (Shapiro et al. 2011). For instance, Sauer-Zavala et al. (2019) found that individuals with the strength of higher dispositional mindfulness displayed improvements in outcomes earlier in interventions. These findings highlight the importance of mindfulness for parents with cumulative family risks. Despite the experience of various family stressors, parents with higher dispositional mindfulness may be more likely to benefit from interventions aimed at improving their mindfulness skills and, ultimately, facilitating health outcomes.

Limitations and Future Research Directions

Several limitations of this study need to be addressed. One major limitation was the cross-sectional nature of the study, which limited conclusions to correlations rather than causality. Future studies using longitudinal designs are warranted to validate the findings of this study. In addition, the majority of the participants were from Chinese two-parent, single-child, middle-class families. It would be valuable to incorporate families from different social backgrounds to examine to what extent the current results can be generalized to different types of families. Moreover, all measures were parents' self-reports, raising concerns of common method variance (Lindell and Whitney 2001). Measuring multiple variables relying solely on a common method may

increase the probability of inflated associations among study variables (Podsakoff et al. 2003). Further studies should utilize multiple assessment strategies to more objectively assess the moderating role of dispositional mindfulness in the association between family risks and parental mental health. Finally, each risk factor may exert a unique impact (Nurius et al. 2015), and distal family risks (e.g., low SES) may be indirectly related to mental health outcomes through proximal family risks (Flouri et al. 2010; Kwon and Wickrama 2014). In the future, attempts should be made to explore whether or which particular risk indicators might exert greater impact on mental health, and whether the effect of SES-related risks on parental mental health operates via parenting-related risks.

Despite these limitations, the current study provides initial evidence for the beneficial effects of dispositional mindfulness within a cumulative family stress context (Khan and Laurent 2019; Neece et al. 2019). We found that parenting-related risks were associated with lower levels of mental health in Chinese parents. Nonetheless, for parents who exhibited higher levels of dispositional mindfulness, the negative effects of parenting-related risks on mental health were attenuated. Our findings suggested that parental dispositional mindfulness might be useful in coping with family stress and enhancing mental health among Chinese parents. Future interventions should consider incorporating mindfulness to support parents experiencing highly cumulative family risks, especially those with heightened parenting-related risks.

Author Contributions HW executed the study, analyzed the data, and wrote the paper. ZRH designed and executed the study and wrote the paper. JJY assisted with the data analysis and paper writing. NA collaborated in writing and editing of the final draft.

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Compliance with Ethical Standards

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

Ethical Approval All materials and procedures in the present study were approved by the Institute Review Board (IRB) of the Beijing Normal University.

Informed Consent Informed consent was obtained from all individual participants.

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