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# Mindful Parenting and Adolescents' Behaviour Problems: The Moderating Role of Family Structure

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## ABSTRACT

This present study investigated the associations of mindful parenting with adolescents' externalising and internalising problems in Chinese families and explored the moderating role of family structure. The sample included 134 Chinese parents (64.9% mothers; 23.1% single parents) aged 33 to 55, whose adolescents (56.7% girls) ranged from 11 to 16 years old. This study employed a cross-sectional survey on Qualtrics. Parents' levels of mindful parenting and adolescents' behaviour problems were measured with parent-reported items. Data were analysed using hierarchical linear regressions. As expected, quantitative results suggested that mindful parenting was significantly negatively associated with Chinese adolescents' externalising and internalising problems. Contrary to the prediction, since this study found no interaction effects between family structure and mindful parenting on Chinese adolescents' externalising and internalising problems, family structure did not moderate any associations of mindful parenting with Chinese adolescents' behaviour problems. The study extended empirical studies to Chinese adolescents and offered fresh insights into potential variances in the influence of mindful parenting on adolescents from dual-parent and single-parent families. Furthermore, the study contributed policymakers and Chinese secondary schools to designing evidence-based mindful parenting training programmes.

## KEYWORDS

Mindful parenting, internalising behaviour problems, externalising behaviour problems, Chinese adolescents

## Introduction

The increasing focus on the complex dynamics of parenting and its effects on adolescent development has highlighted the importance of exploring how different parenting approaches can improve parent-child relationships and influence the course of behavioural development during adolescence (Parent et al., 2016; Singh et al., 2006). One such effective approach is mindful parenting, where parents intentionally bring moment-to-moment awareness and complete attention to their interaction with their child in a non-reactive and non-judgmental manner (Duncan et al., 2009). Adolescents, who often experience increased conflicts and a reduced sense of closeness in their relationships due to significant physical and cognitive changes, may benefit more from mindful parenting through enhancing the overall quality of parent-child relationships (Laursen & Collins, 2009). Since family structures have become increasingly diverse, concern has been raised about potential consequences of single-parent families for adolescent development (Carlson & Corcoran, 2001; Fung, 2021).

Nevertheless, the role of family structure in the association of mindful parenting with adolescent behaviour outcomes has received limited attention. Additionally, little is known about the effectiveness of mindful parenting in reducing behaviour problems among Chinese adolescents, as most studies have relied on European and American families (Tak et al., 2015; Yang et al., 2021). Cultural differences in parental influence suggest that Chinese parents, due to norms emphasising group harmony, are more likely to inhibit

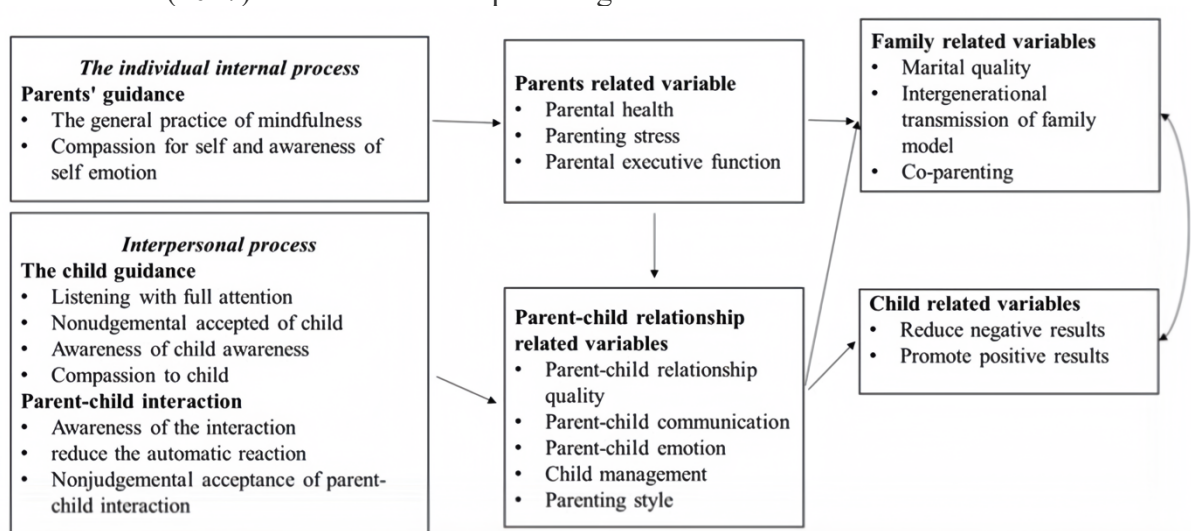


child behaviour problems (Duncan et al. 2009). The model reveals the positive effect of mindful parenting on adolescents’ behaviour problems, mediated by parent-child relationships. Nevertheless, as mindful parenting can be exerted both on parents and parent-child interaction (Townshend et al., 2016), Duncan et al.’s model has been criticised for failing to distinguish the two effects in relation to adolescents’ outcomes (Chen et al., 2017).

The second model of mindful parenting’s effects, as proposed by Chen et al. (2017), surpasses this limitation of Duncan et al.’s model by elaborating on how mindful parenting practices influence adolescents’ behaviour problems via two distinct routes: the internal process and the interpersonal process (see Figure 2). It assumes that the internal process (i.e., parent orientation) may directly improve parent-related consequences such as parental health, similar to the effects on parental wellbeing mentioned in Duncan et al.’s model. These improvements enhance family dynamics such as effective co-parenting and ultimately reduce adolescents’ behaviour problems. Meanwhile, the internal process may indirectly benefit the parent-child relationship, thereby further diminishing adolescents’ behaviour problems. Additionally, the interpersonal process (i.e., child and parent-child interaction orientation) directly impacts the quality of the parent-child relationship, which mitigates adolescents’ behaviour problems by fostering a supportive and positive interaction between parent and child.

**Figure 2**

Chen et al.’s (2017) model of mindful parenting’s effects



*Note.* From “A Review of Mindful Parenting,” by N. Ahemaitijiang, H. Fang, Y. Ren, Z. R. Han and N. N. Singh, 2021, *Journal of Pacific Rim Psychology*, 15 (<https://doi.org/10.1177/18344909211037016>). Copyright 2024 by the American Psychological Association.

Based on the consensus on negative associations between mindful parenting and adolescents’ behaviour problems, the key difference between the two models—particularly the emphasis on the role of family function in these associations—motivates the present study to explore the specific influence of family variables. Duncan et al.’s model excludes family as an influencing variable, whereas Chen et al.’s model depicts a direct effect of family-related outcomes, such as marital quality and co-parenting, on adolescents’ behaviour problems. Since the two models are solely theoretical assumptions, the next section reviews empirical studies on these relationships to confirm this mechanism.

The majority of studies have substantiated that mindful parenting is associated with a decrease in adolescents’ externalising behaviours (Maglica et al., 2020; Parent et al., 2016; Potharst et al., 2021). Park et al. (2020) recruited US adolescents ( $M_{age} = 12.13$ ) and assessed externalising behaviours through 17-item aggressive behaviour scale and 15-item rule-breaking behaviour scale in the Youth Self Report. The study

revealed that adolescents whose parents show fewer mindful parenting practices reported more aggressive and rule-breaking behaviours, indicating that lower levels of mindful parenting is associated with a higher probability of externalising behaviours among their adolescents. Nevertheless, the representative of the finding is criticised by sample characteristics, which come from low- or middle-income communities that are more likely to experience recurrent conflicts and practice less mindful parenting, primarily due to financial stress and limited resources (Park et al., 2020). To provide more holistic insights across different community groups, the present study will recruit a representative sample of parents from diverse socioeconomic backgrounds.

The associations between mindful parenting and adolescents' internalising behaviour problems remain unclear in empirical research (Parent & DiMarzio, 2021). Extensive research has indicated that mindful parenting is inversely but weakly associated with internalising behaviour problems (Potharst et al., 2021; Wynsma, 2023). For instance, Parent et al. (2010) focused on American families and found higher levels of mindful parenting was significantly negatively related to adolescents' anxiety, depression and social withdrawal. For Chinese settings, Yang et al. (2021) employed the emotional symptoms subscale in Strengths and Difficulties Questionnaire to assess internalising behavioural problems, suggesting a direct relation between maternal mindful parenting and Chinese adolescents' behavioural problems and an indirect relation via parents-adolescents communication. Furthermore, Geurtzen et al. (2015) emphasise that non-judgmental acceptance of self and child is the only mindful parenting dimension that may significantly affect adolescents' internalising behaviours. In contrast, Tak et al. (2015) found that mindful parenting dimensions failed to interpret adolescents' depressive symptoms six months later. These inconsistent findings may be attributed to discrepant research design. The earlier studies examined parent and child effects at a specific timepoint, whereas Tak et al. (2015) employed a longitudinal design and identified no long-term influence of mindful parenting on adolescent outcomes.

However, Geier (2012) even proposed a positive relationship, that is, parents' compassion and emotional awareness connect with higher levels of adolescents' depression and anxiety symptoms. As Geier (2012) explains, these mindful parenting dimensions could be regarded as parental overprotection (i.e., a form of negative parenting practices characterised by excessive sensitivity and restrictive behaviours around child exposure to certain situations; Venta et al., 2016), leading to a direct increase in youth internalising problems such as extreme social anxiety (Parent et al., 2016; Xu et al., 2017). Given that mixed findings have been reported in the existing literature, this present study will examine whether mindful parenting is linked to Chinese adolescents' behaviour problems, especially internalising problems.

## Family Structure

Family structure encompassing dual-parent and single-parent families has been identified as a powerful predictor of adolescents' behavioural adjustment (Fung, 2021). No study has explored whether family structure moderates the relationship between mindful parenting and adolescents' behaviour problems, despite evidence of varying associations between parenting practices and child outcomes across diverse family structures (Amato & Fowler, 2002).

Bronfenbrenner's ecological model (1979) provides a theoretical foundation for considering family structure as a potential moderator, due to its emphasis on the interplay between environmental factors and parental behaviours in shaping child behaviours. Additionally, empirical findings underscore the influence of family structure on adolescent behaviours (Daryanani et al., 2016) and its potential interaction with mindful parenting (Bögels et al., 2014).

Substantial research has indicated that adolescents from single-parent families are more prone to exhibit externalising problems, such as delinquency (Boccio & Beaver, 2019) and aggression (Usakli, 2013), than their peers from dual-parent families. The variances in externalising problems between single-parent and dual-parent families were also found among Chinese adolescents (Fung, 2021; Amato & Keith, 1991). Additionally, compared to dual-parent families, residing in single-parent families tends to elevate rates of



internalising problems, such as depression (Daryanani et al., 2016; Parent et al., 2010), anxiety (Dong et al., 2002; Taylor & Conger, 2017), and social withdrawal (Katz et al., 2011).

Furthermore, existing literature has recognised the interaction between mindful parenting and family structure. Based on Chen et al.'s (2017) model, mindful parenting can lessen changes in family structure by indirectly enhancing coparenting and marital quality. Bögels et al. (2014) support the hypothesised effect and demonstrate strengthened co-parental relationships after mindful parenting programmes based on parental reports. It implies that mindful parenting could decrease interparental conflicts to help maintain the stability of dual-parent families. Importantly, recent research shows the opposite direction of the relationship that single parents exhibit lower levels of mindful parenting (Bögels et al., 2014; Parent et al., 2016).

Despite similar promotion in co-parenting and behaviour problems brought by mindful parenting in two types of family structure, the evidence regarding parents' lower levels of mindful parenting and adolescents' higher prevalence of behaviour problems in single-parent families suggests that residing in single-parent families may partially counteract the benefits of mindful parenting on reducing behaviour problems. As the associations of family structure with behaviour problems and mindful parenting have been well-documented, these findings prompt this present study to investigate whether mindful parenting has a smaller effect on adolescents in single-parent families than dual-parent families.

## The Present Study

The present study aimed to examine the association of mindful parenting with externalising and internalising behaviour problems among Chinese adolescents and explored whether family structure moderates the two relationships. In light of this, the research questions are as follows:

- Is there any association between mindful parenting and Chinese adolescents' externalising and internalising behaviour problems?
- Does family structure moderate the associations between mindful parenting and Chinese adolescents' externalising and internalising behaviour problems?

This study employs cross-sectional data from Chinese parents to address research questions. Based on Duncan et al.'s (2009) and Chen et al.'s (2017) theoretical models of mindful parenting's effects, it hypothesises that higher levels of mindful parenting are associated with fewer externalising and internalising behaviour problems among Chinese adolescents. Concerning the differing effects of two family structures on adolescents' externalising and internalising problems, this study further anticipates that family structure may moderate these associations. Specifically, it expects that mindful parenting yields a more significant impact on reducing externalising and internalising problems among adolescents residing in dual-parent families than those in single-parent families.

## Method

### Sample

A poster about this study was posted on WeChat, a Chinese social media platform, to recruit interested participants. Through opportunity sampling across Mainland China, 241 Chinese parents with adolescent children participated in this study. Given ethical considerations, 107 participating parents were excluded as they refused to sign the consent form or failed to see the debrief and submit their questionnaires. Another participating parent questionnaire was discarded due to missing values on one scale item.

The final analytic sample comprised 134 participating parents (87 mothers and 47 fathers) aged 33 to 55 ( $M = 43.01$ ,  $SD = 4.36$ ). The adolescents discussed in the questionnaire included 58 boys (43.3%) and 76 girls (56.7%). The ages of these adolescents ranged from 12 to 16 years ( $M = 13.47$ ,  $SD = 1.75$ ).

## Materials

A self-administered online survey was conducted, which included a demographic questionnaire, the Interpersonal Mindfulness in Parenting scale (Pan et al., 2019), and the Strengths and Difficulties Questionnaire (Du et al., 2008).

The demographic questionnaire collected information about the parents (i.e., parental age, gender, employment, education level and marital status), the target adolescents (i.e., age and gender) and parents' relationship with their adolescent children. There were two categories for parental and adolescent gender (0 = female, 1 = male). Parental employment also had two types (0 = employed, 1 = not employed). Parental educational level was transformed into a two-category variable and then coded into a binary variable (0 = less than bachelor's degree, 1 = bachelor's degree and above). Family structure was divided into two categories, including dual-parent and single-parent families based on parents' marital status (i.e., 'single' = single-parent family; 'married' = dual-parent family; 'cohabiting' = dual-parent family).

Parents' levels of mindful parenting were measured by the Chinese version of the Interpersonal Mindfulness in Parenting scale (IMPS; Duncan, 2007; Pan et al., 2019). The 30-item scale captured all five dimensions of Duncan et al.'s (2009) mindful parenting model: listening with full attention to the child (five items), non-judgmental acceptance of the self and the child (seven items), emotional awareness of the self and the child (six items), self-regulation in the parenting relationship (six items), and compassion for the self and the child (seven items). An example question was 'busy doing something while listening to child' with a response scale of 1 (never true) to 5 (always true). Twelve items in the scale were reverse coded to aligns responses so that higher scores consistently reflect higher levels of mindful parenting. Total mindful parenting score was obtained by summing all items for each participating parent. The internal consistency of the overall IMPS scale in the analytic sample was at acceptable levels ( $\alpha = .75$ ).

Adolescents' externalising and internalising problems were assessed by the official Chinese translations of the parent-reported Strengths and Difficulties Questionnaire (SDQ; Du et al., 2008; Goodman, 1997). The SDQ was a 25-item behavioural screening questionnaire covering five subscales, each consisting of five items. These items were rated on a three-point Likert scale, ranging from 0 (not true) to 2 (certainly true). Goodman et al. (2011) supported the use of two SDQ scales to measure externalising and internalising problems in community samples, the externalising problems scale comprised the 10 items from the hyperactivity and conduct problems subscales, while the internalising problems contained the 10 items from the emotional symptoms and peer problems subscales. Eleven items were reverse coded such that higher scores corresponded with more externalising and internalising problems. Total externalising and internalising problem scores were computed by summing ratings for each subscale item, ranging from 0 to 20. The internal consistency in the analytic sample was acceptable for the SDQ total scale ( $\alpha = 0.76$ ), the externalising problems scale ( $\alpha = 0.74$ ), and adequate for the internalising problems scale ( $\alpha = 0.69$ ).

## Design

This study has a cross-sectional study design via questionnaire. To address the first research question, Chinese parents' total mindful parenting scores served as the independent variable and the dependent variables were adolescents' total internalising and externalising problem scores. For the second research question, an interaction term between mindful parenting and family structure was added as the independent variable.

All materials and procedures in this present study received ethical approval from University College London Psychology with Education Research Ethics Committee. Participants accessed this study via a QR code taking them to the anonymous online questionnaire. Participants were directed to an information sheet where they were fully informed about this study's objectives and procedures, along with their rights to withdraw at any time and to skip sensitive questions. After participants providing their written consent, they were asked to complete the questionnaire in Qualtrics lasting approximately 10 minutes. Parents with more than one child were asked to report on one child within this study's age range (i.e., 12 to 16 years). The questionnaire data were stored in a password-protected account on the university's server, kept entirely

confidential to preserve participants' anonymity.

### Data Analytic Plan

The statistical analysis was performed using IBM SPSS Statistics 27.0 software. Participants' data with less than 100% progress, 'No' response on the online consent form or missing values on items were excluded from the analytic sample. Before the primary analysis, descriptive statistics were carried out to identify sample characteristics and test the linearity, normality, homoscedasticity, and outliers of the three main study variables (i.e., IMPS total scores, SDQ externalising scores and SDQ internalising scores). Therefore, hierarchical linear regression was conducted to examine the first research question regarding the associations of mindful parenting with adolescents' externalising and internalising problems, adjusting for the demographic covariates.

Two models were produced for each outcome variable. Model 1 only included IMPS total scores. The four demographic binary variables (i.e., parental gender, employment, education level, and adolescent gender), parental age, adolescent age, and family structure were added to Model 2. This stepwise approach allowed the analysing of how seven covariates affect the association of mindful parenting with externalising and internalising problems. To examine the moderating role of family structure in the second research question, an interaction term (IMPS Total Score \* Family Structure) was created and added to the model.

## Results

### Descriptive Results

According to participating parents' marital status, Table 1 shows that 31 adolescents were from single-parent families, while 103 were from dual-parent families. Of their parents, 103 were employed, while 31 were not. In terms of education, 49 parents had less than a bachelor's degree, and 85 had a bachelor's degree or higher (see Table 2).

Table 3 displayed the means, standard deviations and observed range of the three study variables in the general sample, dual-parent and single-parent family groups. The mean IMPS total score for general sample of Chinese parents was 98.41 ( $SD = 11.28$ ), above the median possible score on the scale. The average SDQ externalising score for their adolescents was 7.72 ( $SD = 4.54$ ), which rounded to 8, so their externalising problems were at a 'slightly raised' level of severity according to Murray et al. (2020)'s scoring criteria. Similarly, the average SDQ internalising score was 6.84 ( $SD = 4.64$ ), indicating internalising problems also fell at a 'slightly raised' level (Murray et al., 2020).

The mean IMPS total score in dual-parent families ( $M = 99.91$ ,  $SD = 10.77$ ) was higher than that in single-parent families ( $M = 93.42$ ,  $SD = 11.67$ ). The mean SDQ externalising score of adolescents in dual-parent families was close to the average level ( $M = 6.98$ ,  $SD = 4.36$ ), while that in single-parent families ( $M = 10.16$ ,  $SD = 4.31$ ) was at a higher level (Murray et al., 2020). The mean SDQ internalising score of adolescents in dual-parent families was at the average level ( $M = 6.01$ ,  $SD = 4.12$ ), whereas that in single-parent families ( $M = 10.16$ ,  $SD = 4.31$ ) were at a higher level (Murray et al., 2020).

**Table 1**

Descriptive statistics for parental marital status variables in the sample (n = 134)

Family Structure	Parent Marital Status	n	%
Single-parent family	Single	31	23.1
Dual-parent family	Married	78	58.2
	Cohabiting	25	18.7



**Table 2**

Descriptive statistics for parental education level variables in the sample (n = 134)

<b>Parental Education Level</b>		<b>n</b>	<b>%</b>
Less than bachelor's degrees	None	1	.7
	Finished elementary school	2	1.5
	Junior high school degree	4	3.0
	Technical secondary school degree	2	1.5
	Senior high school degree	13	9.7
	Vocational high school degree	3	2.2
	Junior college degree	24	17.9
Bachelor's degrees and above	Bachelor's degree	65	48.5
	Master's degree	19	14.2
	Doctorate degree	1	.7

**Table 3**

Descriptive statistics for IMPS total score variable, SDQ externalising score variable and SDQ internalising score variable in general sample and two family structure groups

Study Variables	<b>General Sample (N = 134)</b>			<b>Dual-parent Family (N = 103)</b>			<b>Single-parent Family (N = 31)</b>		
	Mean	Standard Deviation	Range	Mean	Standard Deviation	Range	Mean	Standard Deviation	Range
IMPS Total Score	98.41	11.28	80-132	99.91	10.77	83-132	93.42	11.67	80-126
SDQ Externalising Score	7.72	4.54	0-18	6.98	4.36	0-18	10.16	4.31	1-18
SDQ Internalising Score	6.84	4.64	0-18	6.01	4.13	0-18	9.58	5.23	1-18

*Assumption Testing*

Scatterplots showed the associations of IMPS total scores with SDQ externalising and internalising problem scores could be modelled by straight lines, suggesting that the associations satisfied the linearity assumption. In Residuals vs. Fitted Values Plots, as the residuals are randomly scattered around zero with no apparent pattern, homoscedasticity assumption was also met. The histograms of the three variables were positively skewed distributions. Based on boxplots, there was no outlier present.

*Correlational Analysis*

As expected, Chinese parents' levels of mindful parenting were moderately negatively associated with their adolescents' behaviour problems (externalising:  $r(132) = -.66, p < .001$ ; internalising:

$r(132) = -.64, p < .001$ ; see Table 4). Family structure was significantly associated with mindful parenting levels ( $r(132) = -.24, p < .05$ ), adolescents' externalising ( $r(132) = .30, p < .001$ ) and internalising ( $r(132) = .33, p < .001$ ) problems. Parental age, educational level, employment, and adolescent age were all significantly correlated with mindful parenting, though the correlations of parental age and adolescent age were not significant. All demographic variables, except for parental education level and adolescent gender, were significantly correlated with externalising and internalising behavioural problems.

**Table 4**  
 Correlations among main variables in the sample

Variables	1	2	3	4	5	6	7	8	9	10
1. IMPS total score	1									
2. SDQ internalising score	<b>-.66</b>	1								
3. SDQ externalising score	<b>-.64</b>	<b>.84</b>	1							
4. Parental age	<b>.23</b>	<b>-.22</b>	<b>-.33</b>	1						
5. Parental gender	.16	<b>-.27</b>	<b>-.27</b>	-.02	1					
6. Parental education level	<b>.18</b>	-.01	.00	<b>.27</b>	.06	1				
7. Parental employment	<b>-.29</b>	<b>.37</b>	<b>.32</b>	-.17	-.04	<b>-.17</b>	1			
8. Adolescent age	<b>.19</b>	<b>-.32</b>	<b>-.36</b>	.09	.10	<b>-.08</b>	-.03	1		
9. Adolescent gender	.04	-.03	-.09	.12	-.07	-.07	.02	.02	1	
10. Family structure	<b>-.24</b>	<b>.33</b>	<b>.30</b>	<b>-.19</b>	-.04	-.15	<b>.37</b>	<b>-.18</b>	.09	1

Note. The correlations in boldface were at least significant at a  $p < .05$  (2-tailed) level.

The first hierarchical multiple regression was conducted to examine the anticipated associations between parents' perceptions of mindful parenting and Chinese adolescents' externalizing problems (see Table 5). When IMPS total score was entered into the model at Model 1, a significant regression equation was found,  $F(1, 131) = 91.95, p < .001$ , with an adjusted  $R^2$  of .41. This indicated that 41% of the variance in adolescents' externalising problems was explained by mindful parenting. For every increase in one point on the IMPS scale, adolescents' SDQ externalising scores decreased by .26 points (and an increase in 1 standard deviation on the IMPS scale is related to a decrease in .64 standard deviations on the SDQ externalising scale). Adding six demographic covariates as controlled variables to Model 1 (Model 2) led to a significant change in  $R^2$  of .16,  $F(7, 124) = 5.74, p < .001$ . Adolescents' externalising problems were also significantly predicted by parent gender ( $t = 2.69, p < .05$ ), age ( $t = -2.63, p < .05$ ), and adolescent age ( $t = -3.20, p < .05$ ). However, parental employment ( $t = 1.70, p = .09$ ), education levels ( $t = 1.01, p = .32$ ), adolescent gender ( $t = 0.90, p = .37$ ) and family structure ( $t = 1.07, p = .29$ ) did not significantly predict adolescents' externalising problems.

The full model of mindful parenting and demographic covariates was significant,  $F(8, 124) = 19.43, p < .001$ , with an adjusted  $R^2$  of .53. For every one-point increase in the IMPS scale, adolescents' SDQ externalising score decreased by .20 points (the standardized coefficient showed that the decrease was .49 standard deviations). Fathers reported that their adolescents had SDQ externalizing scores that were 1.52 points higher, equivalent to an increase of .16 standard deviations, compared to the scores reported by mothers. With every one-year older in parent age, adolescents' SDQ externalising scores tended to decrease by .18 points, equal to .17 standard deviations. Also, adolescents' SDQ externalising scores were reduced by .62 points, equivalent to .21 standard deviations, with every one year older in adolescent age.

The second hierarchical multiple regression established the expected associations between parents' perception of mindful parenting and Chinese adolescents' internalising problems (See Table 6). When the IMPS total score was entered into the model at Model 1, a significant regression equation was found,  $F(1, 131) = 103.46, p < .001$ , with an adjusted  $R^2$  of .44. This indicated that mindful parenting accounted

for 44% variance of adolescents' internalising problems. For every increase in one point on the IMPS scale, adolescents' SDQ internalising scores decreased by .27 points (and an increase in 1 standard deviation on the IMPS scale was related to a decrease in .66 standard deviations on the SDQ internalising scale). Adding six demographic covariates as controlled variables to Model 1 (Model 2) led to a significant change in  $R^2$  of .12,  $F(7, 124) = 4.58, p < .001$ . Parental gender ( $t = 2.36, p < .05$ ), employment ( $t = 2.36, p < .05$ ) and adolescent age ( $t = -2.96, p < .01$ ) were significantly predictive of adolescents' internalising problems. However, parental age ( $t = -.45, p = .65$ ), parental education levels ( $t = .41, p = .69$ ), adolescent gender ( $t = .44, p = .66$ ) and family structure ( $t = 1.57, p = .12$ ) did not significantly predict adolescents' internalising problems.

**Table 5**

Regression coefficients for model 1 and 2 regarding mindful parenting and adolescents' externalising problems

Model	IV	b	SE	B	Lower CI (95%)	Upper CI (95%)
Model 1	Intercept	33.15	2.67		27.87	38.43
	IMPS total score	-.26***	.03	-.64	-.31	-.21
Model 2	Intercept	41.89	4.20		33.58	50.20
	IMPS total score	-.20***	.03	-.49	-.25	-.15
	Parental age	-.18**	.07	-.17	-.32	-.04
	Parental gender (Father = 1)	1.52*	.59	.16	.36	2.68
	Parental employment (Employed = 1)	1.22	.72	.11	-.20	2.64
	Parental education level (Less than a bachelor's Degree = 1)	.63	.62	.07	-.61	1.86
	Adolescent gender (Boy = 1)	.51	.56	.06	-.61	1.62
	Adolescent age	-.62**	.19	-.21	-1.01	-.24
	Family structure (Single-parent family = 1)	.79	.73	.07	-.67	2.24

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

The model of mindful parenting and demographic covariates was significant,  $F(8, 124) = 19.41, p < .001$ , with an adjusted  $R^2$  of .53. For every one-point increase in the IMPS scale, adolescents' SDQ internalising score decreased by .22 points (the standardised coefficient showed the decrease was .53 standard deviations). Fathers reported that their adolescents had SDQ internalising scores that were 1.41 points higher, equivalent to an increase of .15 standard deviations, compared to the scores reported by mothers. Parents with no employment had an increase of 1.73 points in their adolescents' SDQ internalising scores, equal to .16 standard deviations. With every one-year older in adolescent age, the SDQ internalising score decreased by .59 points, which equated to a .19 standard deviation.

**Table 6**

Regression coefficients for Model 1 and 2 regarding parents' mindful parenting and their adolescents' internalising problems

Model	IV	b	SE	B	Lower CI (95%)	Upper CI (95%)
Model 1	Intercept	33.73	2.66		28.47	38.99
	IMPS total score	-.27***	.03	-.67	-.33	-.22
Model 2	Intercept	36.04	4.29		27.55	44.53
	IMPS total score	-.22***	.03	-.53	-.27	-.16
	Parental age	-.03	.07	-.03	-.17	.11
	Parental gender (Father = 1)	1.41*	.60	.15	.23	2.60
	Parental employment (Employed = 1)	1.73*	.73	.16	.28	3.17
	Parental education level (Less than a bachelor's Degree = 1)	.26	.64	.03	-1.00	1.52
	Adolescent gender (Boy = 1)	.25	.58	.03	-.89	1.39
	Adolescent age	-.59**	.20	-.19	-.98	-.19
	Family structure (Single-parent family = 1)	1.18	.75	.11	-.31	2.67

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

The interaction calculated in the third and fourth hierarchical linear regression indicated that family structure did not moderate the association of mindful parenting with externalising and internalising problems. The addition of the interaction term did not lead to significant changes (externalising:  $R^2 = .00$ ,  $F(1, 123) = .00$ ,  $p = .99$ ; internalising:  $R^2 = .01$ ,  $F(1, 123) = 2.85$ ,  $p = .09$ ). The regression coefficients of the model were reported in Table 7.

## Discussion

The present study leveraged a data-driven approach to explore whether mindful parenting was associated with adolescents' externalising and internalising behaviour problems in Chinese families, and examine the moderating role of family structure in the two associations. Consistent with the first hypothesis, this study indicated that mindful parenting was moderately related to fewer externalising and internalising behavioural problems among Chinese adolescents. This confirms Duncan et al.'s (2009) and Chen et al.'s (2017) model assuming the beneficial effect of mindful parenting on adolescents' behaviour outcomes. Nonetheless, the finding did not match the second hypothesis and demonstrated that neither association was moderated by family structure. Although, as expected, Chinese adolescents in single-parent families had more externalising and internalising problems than those in dual-parent families (Boccio & Beaver, 2019), family structure seemed not to explain it.

**Table 7**

Regression coefficients for all models regarding the interaction between mindful parenting and adolescents' behaviour problems

DV	IV	b	SE	B	Lower CI (95%)	Upper CI (95%)
Externalising problems	Intercept	41.88	4.27		33.44	50.33
	IMPS total score	-.20***	.03	-.49	-.25	-.14
	Family Structure (Single-parent family)	0.79	.76	.07	-.72	2.29
	Parental Age	-.18*	.07	-.17	-.32	-.04
	Parental gender (Father)	1.52*	.60	.16	.34	2.70
	Parental employment (Employed)	1.22	.74	.11	-.24	2.68
	Parental education level (Less than a bachelor's degree)	.63	.63	.07	-.62	1.88
	Adolescent gender (Boy)	.51	.57	.06	-.61	1.63
	Adolescent age	-.62**	.20	-.21	-1.02	-.23
	IMPS*Single-parent family	.003	.29	.001	-.57	.58
	Internalising problems	Intercept	37.17	4.31		28.64
IMPS total score		-.21***	.03	-.52	-.27	-.16
Family structure (Single-parent family)		.86	.77	.08	-.66	2.38
Parental age		-.03	.07	-.03	-.17	.10
Parental gender (Father)		1.24*	.60	.13	.05	2.44
Parental employment (Employed)		1.45	.74	.13	-.02	2.93
Parental education level		.14	.64	-.02	-1.12	1.40
Adolescent gender		.21	.57	.02	-.93	1.34
Adolescent age		-.67**	.20	-.22	-1.07	-.265
IMPS*Single-parent family		-.50	.29	-.11	-1.08	.09

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



The established negative relationship between mindful parenting and Chinese adolescents' externalising problems was consistent with Parent et al. (2016) conducted among European and American adolescents. Park et al. (2020) proposed that parents adopting mindful parenting practices may better regulate emotions and nonjudgmentally communicate, which helped them effectively resolve and avert recurrent conflicts with their adolescents. These actions may assist adolescents in learning conflict resolution strategies and applying them in other relationships, thereby minimising the incidence of externalising problems. Another possible explanation is that parents with higher mindful parenting levels may implement more positive parenting practices such as warmth and supportiveness, enhancing parent-child relationship quality (Laursen & Collins, 2009; Van der Oord et al., 2012). Accordingly, parents can guide adolescents to navigate intrapersonal and interpersonal issues, leading to fewer rule-breaking behaviours (Chen et al., 2017).

Concerning internalising problems, it reduced when parents' levels of mindful parenting increased, consistent with findings from Wynsma (2023). The five principles of mindful parenting may facilitate parent-adolescent interaction and adolescent self-disclosure (Yang et al., 2021), which can lessen adolescents' anxiety or depression by promoting parent-adolescent affection (Duncan et al., 2009). However, the negative association was moderate, contrary to Parent et al. (2010) revealing a weak relationship among children aged 9 to 15. The varying association strengths in the present study might account for its more diverse sample, with educational backgrounds ranging from illiteracy to a Doctorate degree (Geutzen et al., 2015), compared to Parent et al. (2010) study where over 85% of parents had higher education.

Nevertheless, the negative relationship contradicts the claim of Moreira et al. (2021) that compassion and emotional awareness in mindful parenting as parental overprotection would promote adolescent internalising problems. Xu et al. (2017) proposed the need to consider gender differences, showing that adolescents' social anxiety is reduced by paternal emotional warmth but boosted by maternal overprotection. Considering 36.4% of participants were fathers, the finding might have been influenced by the effects of fathers' mindful parenting and revealed fewer internalising behaviour problems including social anxiety among adolescents whose parents had higher mindful parenting levels (Parent et al., 2016).

Additionally, the results did not show that family structure moderated the relationship between mindful parenting and Chinese adolescents' externalising and internalising problems. This contradicts Bronfenbrenner's (1979) model, which may stem from two considerations: the impact of family structure on adolescents' behaviour problems and the non-directional relationship between family structure and parents' mindful parenting.

Contrary to the anticipated disparities posited by Fung (2021), this study found that family structure did not affect Chinese adolescents' behaviour problems, despite considerable differences in externalising and internalising problems among Chinese adolescents from dual-parent versus single-parent families. This inconsistency may be attributed to the reliance on parental reports of their adolescents' behavioural problems, which differ from the self-reported measures employed by Fung (2021). Parental reports are influenced by adolescents' behaviours displayed within the parent-child interaction (Geier, 2012), potentially underrepresenting behavioural problems of adolescents from single-parent families due to reduced interaction and relational quality (Daryanani et al., 2016). Nonetheless, the absence of family structure effects on adolescents' internalising behaviour problems aligns with the findings of Patten et al. (1997) and Ruschena et al. (2005), who suggest that adolescents' perception of parental social support, rather than the physical presence of parents, mitigates internalising problems. This implies that the singular factor of residing within a single-parent family may not exacerbate adolescents' behaviour problems.

The differences in externalising behaviour problems between two family structures may be due to the removal of noncustodial parents in single-parent families, which reduces economic and parental resources (Amato & Keith, 1991). Accordingly, parents may be less likely to supervise and educate their adolescents, which may raise the incidence of adolescents engaging in deviant behaviours (Boccio & Beaver, 2019). In terms of internalising behaviour problems, interparental conflicts especially in divorced single-parent families as a severe stressor have a detrimental impact on adolescents' psychological adjustment, thereby increasing their risks of internalising problems (Amato & Keith, 1991).

This study did not confirm an interaction between family structure and mindful parenting but did identify a significant association. Specifically, parents in single-parent families demonstrated lower levels of mindful parenting compared to those in dual-parent families, consistent with Parent et al. (2016). The disparity in mindful parenting between the two family structures may be explained by the heavier parental stress perceived by single parents (Venta et al., 2016). Such stress is likely to precipitate negative parenting behaviours, characterised by elevated irritability (i.e., less self-regulation and emotional awareness in mindful parenting) and harsh control (i.e., less compassion and acceptance in mindful parenting) - both antithetical to the tenets of mindful parenting. In general, as family structure does not fulfil one of the two requirements for becoming moderators (i.e., an effect on adolescents' behaviour problems), it cannot be deemed a moderator within the associations of mindful parenting with externalising and internalising problems among Chinese adolescents.

### **Strengths and Limitations**

Despite cross-sectional study design and an overrepresentation of mothers and dual-parent families in the sample, the present study had two key strengths. The main advantage of the study was its demographically representative sample including low-, middle- and high-educational-level families, which provided sufficient power to detect small effect sizes of mindful parenting on Chinese adolescents' externalising and internalising behaviour problems and more holistic insights. Second, adolescents' externalising and internalising behaviour problems were reported by their parents, ensuring that the data reflected objective adolescents' behaviours and minimised the influence of social desirability bias.

### **Implications**

Concerning theoretical implications, this study confirms negative associations of mindful parenting with externalising and internalising problems among Chinese adolescents, which extends empirical evidence regarding the contribution of mindful parenting in Asian culture. Besides, it seems to be the first to formally examine family structure as a moderator of the associations. Despite the absence of a moderating effect of family structure, this study offers fresh insights into potential variances in the influence of mindful parenting on adolescents from dual-parent and single-parent families. Furthermore, this study raises real-world issues about the increasing severity of externalising and internalising problems among Chinese adolescents. Moreover, the findings of the negative associations highlight the need for parenting education programmes that incorporate the training of mindful parenting practices, which can empower parents to enhance their relationship with adolescents and effectively diminish adolescents' behaviour problems. Consequently, the findings could inspire policymakers to design evidence-based mindful parenting programmes and encourage Chinese secondary schools to implement these practical programmes.

### **Conclusion**

In conclusion, this study demonstrated that high levels of mindful parenting were negatively and moderately associated with fewer externalising and internalising behaviour problems among Chinese adolescents. Additionally, the two associations were both not moderated by family structure. These findings aligned with previous studies regarding the benefits of mindful parenting on Western adolescents and provided evidence that mindful parenting can reduce behaviour problems among Chinese adolescents. Furthermore, this study raises concerns about prevalent externalising and internalising problems among Chinese adolescents and advocated for mindful parenting training programmes as practical interventions for policymakers and Chinese secondary schools to reduce adolescents' behaviour problems. Considering the limitations of this present study, future research can recruit a gender-balanced sample and measure parents' levels of mindful parenting and adolescents' behaviour problems using independent observers' ratings. Future research can

further investigate the causal mechanisms that help explain the negative associations found by this present study.

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