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The Relation between Parenting Stress and Child Behavior Problems: Negative Parenting Styles as Mediator

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Abstract

Parenting young children could be stressful at times and parenting stress could have an impact on parenting styles and child behavior problems which could lead to difficulties in later life. Therefore, the relationship among these three factors is worthy of examination. In this study we aim to examine the direct relationship between parenting stress, parenting styles, and perceived child behavior problems; and to investigate a model that illustrates the mediating role of negative (authoritarian and permissive) parenting styles on the relationship between parenting stress and perceived child behavior problems in China. A total of 371 parents with preschool age children (3 to 7 years old) were recruited. The results showed higher level of parenting stress was associated with higher level of reported child behavior problems. Parenting stress was positively related to negative parenting styles, and negative parenting styles partially mediated the relationship between parenting stress and child behavior problems. Findings from this study suggested that reducing parenting stress, improving parenting behaviors such as parenting styles, and enhancing parent-child relationship through early support (e.g., parenting skills training) are of vital importance and mutual benefits to the parents, children, and family relationships at large.

Keywords Parenting stress · Child behavior problems · Preschool children · Negative (authoritarian and permissive) parenting styles · Mediator

Highlights

- This study examines the relationships of parenting styles with parenting stress and child behavior problems in Chinese context.
- Parenting stress was positively associated with child behavior problems.
- Parenting stress was positively related to negative parenting styles.
- Negative parenting styles partially mediated the relationship between parenting stress and child behavior problems.

Early childhood is a period of rapid development. In particular, the period between 2 and 6 years old is a critical period of transitioning from infancy to growing autonomy, as well as social and cognitive competence (Campbell 1995). Developmental changes during early childhood require children to adapt to new environments and to adjust their behaviors accordingly. It is also a period of outgrowing problem behaviors (Campbell 1995; 2006). Previous research has attempted to discover the presence of behavioral problems (internalizing and externalizing behaviors) in early childhood and their consequences for later development, and a growing number of studies have found that early and persistent problem behaviors are associated with long-term problems, such as poor academic adjustment in early primary years (Farmer et al. 2002), and even anti-social behaviors in adolescence (Zahn-Waxler et al. 2005).

Children's development of skills, such as early social skills, is heavily dependent on their family context during preschool age (Anthony et al. 2005). Parenting stress, as one of the major factors in the family context, has been widely recognized as being associated with children's

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behavior problems. To be a parent is not easy; the day-to-day demands of caregiving and raising children put caregivers at risk of being stressed. Crnic and Low (2002) described that "perhaps nothing characterizes parenting better than the everyday challenges and caregiving demands that involve relationships with the developing child" (p. 243). Parents, as the primary caregivers for their children, need to respond to the multitudinous physical and psychological needs of their children, such as feeding, protection, and care. However, stress specific to parenting is not only related to the demands of child rearing and provision of resources that children need, but also to parental psychological well-being and parent-child relations. That is why Deater-Deckard (2004) regarded parenting stress as "particularly powerful as a cause and consequence of the variation that is found in parenting behaviors and children's outcomes across different families" (p. 5). In recent decades, the relation between parenting stress and child problem behaviors has attracted considerable attention from researchers, and several studies have suggested that the higher the level of self-reported parenting stress, the higher the possibility of the existence of behavior problems in children (Creasey and Jarvis 1994), including both internalizing and externalizing behaviors (Anthony et al. 2005). The emerging evidence indicates that parenting stress can lead to a series of negative outcomes, and such stress is moderately stable during the years when children are making the transition from preschool childcare to kindergarten and primary school (Deater-Deckard et al. 1996). With the negative impact on child development brought about by parenting stress, it is important to conduct research on the linkage between parenting stress and child behavior problems.

Besides the effect of parenting stress on child development, there is another important factor, i.e., parenting styles, that has been widely documented as having impact on children's development (e.g., Campbell 1995; Stormshak et al. 2000). Alternatively, parenting stress and parenting styles have been found to be related in previous studies, more specifically, parents who experienced higher levels of parenting stress were more likely to adopt an authoritarian parenting style (Crnic and Low 2002; Deater-Deckard and Scarr 1996; Webster-Stratton 1990). Moreover, it is universally accepted that authoritarian parenting style is associated with child behavior problems, such as the externalizing disruptive behavior problems (e.g., aggression, hyperactivity) (Stormshak et al. 2000) and internalizing behaviors (e.g., anxiety, social withdrawal) (Cole and Rehm 1986).

The term *stress* is generally defined as "individual's responses (both emotional and behavioral) to unpleasant events" (Crnic and Low 2002, p. 243). Deater-Deckard (1998) conceptualized parenting stress as a kind of psychological distress that arises from the psychological costs of parenthood, and the author gave a simpler but precise definition of parenting stress as "the aversive psychological reaction to the demands of being a parent" (p.315). The parent role certainly comes with pressures concerning meeting the needs of children in various ways; researchers found that parents frequently experience high levels of stress from child rearing during the preschool period (Anthony et al. 2005).

In general, the theoretical construct of child behavior problems is conceptualized and divided into two broad categories: the first one is externalizing behaviors including aggressive and delinquent behaviors, and the other is internalizing behaviors which are defined as the reflection of internal states such as depression, anxiety, and withdrawal (Achenbach et al. 1987; LaFreniere and Dumas 1996). Campbell (1995) reviewed a large number of studies about behavior problems in preschool children and summarized the characteristics of behavior problems into internalizing behaviors including sadness, anxiety, social withdrawal, and fearfulness; and externalizing behaviors including overactivity, aggression, poor impulse control, and tantrums. LaFreniere and Dumas (1996) constructed a scale to evaluate children's social competence and behaviors, with externalizing behaviors including anger, aggressiveness, selfishness, and oppositional behaviors, while anxiety, depression, isolation, and overly dependent behaviors were categorized as internalizing behaviors.

Prior research with preschool children showed that behavior problems in children could lead to long-term difficulties in later life. Ewing and Campbell (1995) noted that child behavior problems were relatively stable before and after school entry, and it was likely that these problems would persist into adolescence. With the growing awareness of the persistent influence of child behavior problems on children's developmental outcomes, an increasing number of studies have addressed this relationship. Children's externalizing problems have been found to be related to academic underachievement (Van Lier et al. 2012), poor peer relations (Farmer et al. 2002), even anti-social behaviors in adolescence (Zahn-Waxler et al. 2005). Additionally, internalizing problem behaviors in early childhood have been linked to peer victimization (Reijntjes et al. 2010), higher risk of being connected with deviant peers and engagement in risky behaviors (Fanti and Henrich 2010).

During the period of preschool age, parenting stress is the most significant influencing factor related to children's poor social competence, and the exhibition of both externalizing and internalizing behaviors (Anthony et al. 2005). Several studies have suggested that the higher the level of parenting stress that parents reported, the poorer the children's social competence and the higher the

possibility of having behavior problems. In a quantitative study with 589 parents of 12 to 60 months old young children, Deater-Deckard and Scarr (1996) reported that parenting stress was significantly related to children's misbehaviors, such as hyperactivity. Neece et al. (2012) indicated that children's externalizing behaviors increased when parents' at-home stress intensified and vice versa. Even at the age of two years old, this connection could be observed. For instance, Creasey and Jarvis (1994) conducted a research on two-year-old children's behaviors and their parents' stress, the results of their study indicated that higher level of maternal and paternal reported stress was related to more problem behaviors in toddlers, especially externalizing behaviors. In addition, mothers' reported stress was associated with child behavior problems at around four years old (Abidin et al. 1992).

Based on Bronfenbrenner's (1986) ecological system approach, family, as one of the variables in the microsystem, can contribute to children's development in the most direct and immediate way. This theory emphasizes the important functions of the family and parenting. Since the role of parents and their way of parenting are of great importance to child development, many researchers are examining how parents can contribute to their children's development. According to Luster and Okagaki's (1993) Ecology of Parenting, parenting is shaped by multiple factors that are related to the parent, child, family, and social context; parents' behaviors or their styles of parenting toward their children can significantly impact children's personality, psychological well-being, as well as later achievement.

Baumrind (1971), one of the most influential figures in parenting research, proposed a pattern-based approach to study parenting by focusing on specific sets of parenting practices that parents consistently use in raising their children, and she classified these into three initial types of parenting styles including authoritative, authoritarian, and permissive parenting styles. Maccoby and Martin (1983) later re-conceptualized Baumrind's three parenting styles into the two orthogonal dimensions of responsiveness/ warmth and demandingness/control which resulted in four parenting styles, namely, authoritative (high in both warmth and control), authoritarian (low warmth and high control), indulgent/permissive (high warmth and low control), and neglectful (low in both warmth and control) parenting styles. The person-centered approach focusing on global styles of individuals' specific combinations of parenting practices has the "advantage of accounting for parenting practices at the same time within the same person" (Kuppens and Ceulemans 2019, p. 169) yet some researchers have concerns about this approach to parenting as being inflexible, static, and not sensitive enough to capture contextual and cultural variations (Smetana 2017). This has

led to a more contemporary, specific approach to study parenting in terms of various parenting dimensions, behaviors, beliefs, and domain-specific models with the emphasis on parents' flexibility in deploying different practices based on their goals and own experiences, children's needs, behaviors, developmental status, as well as cultural context (Smetana 2017).

Chinese parenting has often been characterized as restrictive/controlling and low in warmth/responsiveness, these are typical qualities associated with authoritarian parenting style (Chao 1994). However, researchers suggested the qualities pertaining to control and responsiveness in parental behaviors and parenting styles may be interpreted and represented differently based on cultural contexts (Chao 2000, 2001; Deater-Decakard et al. 2005). More specifically, parental strictness or control are more likely to be associated with rejection and hostility in western culture whereas parents can express their care, concern, and involvement through parental strictness in Asian and Chinese culture (Chao 1994). Similarly, western parents often express their love for their children and respond accordingly by using hugs, kisses and, praises while Asian parents do so through their support and involvement (Chao and Tseng 2002). Besides, cultural differences were found in the associations between parenting styles/practices and child outcomes, e.g., Chao (2001) discovered the supposedly beneficial effect of authoritative parenting on school performance only applied to European Americans youths but not the Chinese adolescents in the study; indeed, it was authoritarian parenting that was found to be positively related to Hong Kong Chinese's school performance (Leung et al. 1998). However, in a meta-analysis by Pinquart and Kauser (2018), Chao's (2001) suggestion that authoritative parenting is perhaps more positive for child outcomes in western countries than in East Asian countries was not supported, and at the same time the meta-analysis revealed inconsistencies in the association of parenting styles/practices with child outcome such as child behavior problems across cultures, making this current study in the Chinese context even more worthwhile.

In a comprehensive review, Campbell (1995) summarized that there was an obvious positive connection between authoritarian parenting style (including harsh discipline, physical coercion, verbal hostility), permissive parenting style (e.g., indulgence, ignorance) and children's behavior problems. A meta-analysis including 428 studies from different countries also reported similar positive associations of internalizing and externalizing problems with both authoritarian parenting and permissive parenting styles (Pinquart and Kauser 2018). Moreover, research evidence suggested that children who had coercive and rejecting experiences with their parents were more likely to have aggressive behaviors, and the possibility of having conduct

problems was higher (Patterson et al. 1989). According to Stormshak et al. (2000) negative parenting practices, low positive parental involvement and low parental warmth have been found to contribute significantly to children's disruptive behavior problems (e.g., opposition, aggression, and hyperactivity); and low levels of parental praise (e.g., expressing affection, offering reward) have been related to children's internalizing behaviors, for example, anxiety and social withdrawal (Cole and Rehm 1986).

Parenting stress is one of the key determinants of parenting behaviors or parenting styles (e.g., Abidin 1992; Belsky 1984). As suggested by Belsky (1984) parenting practices could be compromised by parenting stress and the compromised parenting practices would have an impact on child developmental outcome. That is, more parenting stress could be linked to more negative parenting styles, and in turn, negative parenting styles could be correlated with negative developmental outcome such as child behavior problems. In fact, high level of stress parents experienced were found to be associated with negative parenting practices (e.g., inadequate monitoring and control); and higher level of parenting stress and negative parenting styles were related to poorer developmental outcomes for children (e.g., children's behavior problems) (Crnic and Low 2002).

Based on the findings of the aforementioned research and numerous existing studies reviewed thus far, the direct relationship among parenting stress, parenting styles, and child behavior problems has been widely studied, recognized and supported, yet only few research studies examined all these three variables simultaneously through this mediation model and clear support is lacking (Deater-Deckard and Scarr 1996; Mackler et al. 2015) although it has been recognized as an important direction for further research (Neece et al. 2012). And even for the limited studies that have investigated the mediation models, the negative permissive parenting style has rarely been included together with the more researched negative authoritarian parenting style, not to mention in the Chinese context. Social and family stress has been heightened in China. As Xu and Xia (2014) stated, China has been experiencing significant economic and social changes in recent decades, for instance, a booming economy, increase in mobility and divorce rate; these changes have led to more employment opportunities yet the job market has become more competitive, child rearing and education more costly, and life more challenging and stressful. All these factors could be relevant in how parenting stress, parenting styles, and child behavior problems manifest themselves and interact. Therefore, investigating such relationships and mediation model in the Chinese context is vital because the majority of the parenting research has been conducted in Western societies so it would be worth examining whether the findings are relevant in the Chinese context.

In light of these concerns and given the importance of and insufficient support for this mediation model, the major purposes of this research are to examine in the Chinese context (1) the direct relationship between parenting stress and preschool children's behavior problems, (2) the role of negative parenting styles in such a relationship, and (3) whether negative authoritarian and permissive parenting styles can mediate the effect of parenting stress on preschoolers' behavior problems. We hypothesize that parenting stress would be positively associated with child behavior problems and negative parenting styles, and that negative parenting styles would partially mediate the relationship between parenting stress and child behavior problems.

Method

Participants

Participants were recruited from two cities in Southern China. To qualify for participation in this study, participants needed to be parents who had children at preschool age (3 to 7 years old). There were 395 participants recruited, and 371 of which were valid (at a valid rate of 94%) for analyses. In this study, there were 371 parents with preschoolers aged from 36 to 80 months ($M = 54.48$, $SD = 11.83$). One hundred and ninety-seven of the children were boys and 174 were girls. The age of the parents ranged from 23 to 53 years old ($M = 33.05$, $SD = 5.42$). The majority of the parents were high school graduates (33.2%) or had university/college degrees (31.8%). The sample mainly consisted of participants from middle class. Demographics information of the participants is shown in Table 1.

Procedure

In this study convenient sampling was used to collect the data and only one parent of each child completed the questionnaire based on their availability. Firstly, teachers from kindergartens were contacted; once they agreed to take part in this study, the questionnaires were printed out and were given to them for distribution to parents of their kindergarten students. The teachers were responsible for explaining the purpose of the data collection to parents and let them know that participation was voluntary, the data collected would be anonymous and confidential, and they were free to withdraw from the study at any time without any consequences. If the parents agreed to participate in this research, a questionnaire was then given and collected back after completion. At the same time, community service centers contacted parents who had children at preschool age and invited these parents to participate in this research study. Trained volunteers from a local university and social

Table 1 Demographics information of the participants

		N	%	M (SD)
1.	Age			
	Children (Months)			54.48 (11.83)
	Parents (Years)			33.05 (5.42)
2.	Gender of the children			
	Boy	197	53.1	
	Girl	174	46.9	
3.	Education level of the parents (Highest degree earned)			
	Ph.D.	3	0.8	
	Master	12	3.2	
	Bachelor/College	118	31.8	
	High school	123	33.2	
	Middle school	90	24.3	
	Primary	19	5.1	
	Less than primary	2	0.5	
	Missing	4	1.1	
4.	Occupation of the parents			
	Major professionals	27	7.3	
	Professionals	50	13.5	
	Semi-Professionals	118	31.8	
	Skilled Laborers	98	26.4	
	Semi-skilled laborers	64	17.3	
	Missing	14	3.8	

$N = 371$

workers from the community service centers went to different communities to meet those parents who were willing to join this study and asked them to complete the questionnaire on their own. Again, the participants were informed that they were free to withdraw from the study at any time without any consequences and all data would be anonymous and kept confidential.

Measures

Child Behavior Problems

The "Anger-Aggression" (AA) and "Anxiety-Withdrawal" (AW) subscales of the Chinese version of Social Competence and Behavior Evaluation-short form (SCBE-30) (the original SCBE-30 was developed by LaFreniere and Dumas in 1996, and the Chinese version revised by Liu et al. in 2012 was utilized in this study to assess parental perceived child behavior problems. The target group for assessment by this scale is preschoolers (about 3 to 7 years old) and it is a parent-/teacher-report measure. There are ten items in each of the subscales. All the items were rated by parents of the children in this study on 6-point Likert-type scales, ranging from 1 (Never) to 6 (Always). The subscale of "Anger-Aggression" was used to examine children's externalizing behavior problems (e.g., "My child is angry when interrupted"). The subscale of "Anxiety-withdrawal" was used to examine children's internalizing behavior problems (e.g., "My child does not interact in groups"). The Cronbach's alpha for the SCBE composite in this study was 0.81, for the AW and AA subscales were 0.88 and 0.82, respectively.

The finalized Chinese version, in which back-translation technique was adopted, was used in both of the following Parenting Stress Index-Short Form (PSI-SF) and the Parenting Styles and Dimensions Questionnaire – Short Version (PSDQ-32).

Parenting Stress

To measure parenting stress, the current study employed the Parenting Stress Index-Short Form (PSI-SF) which is based on the original English version of the Parenting Stress Index (PSI-SF) by Abidin (1995), and contains 36 items from the original index. This scale is suitable for use with parents of children age from 0 to 12 years. The PSI-SF has three subscales: 1) Parental Distress, 2) Parent-Child Dysfunctional Interaction, and 3) Difficult Child. Each subscale has 12 items and each item is rated on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Parental Distress subscale (items 1 to 12) measures distress experienced by parents toward their parental role (e.g., "Since having this child, I feel that I am almost never able to do things that I like to do"). The Parent-Child Dysfunctional Interaction subscale (items 13 to 24) refers to parents' perception as to what extent their children meet or do not meet their expectations, and the degree of reaction from their children (e.g., "Sometimes I feel my child doesn't like me and doesn't want to be close to me"). The last subscale is Difficult Child (items 25 to 36) which assesses how parents feel about the difficulty or ease of managing their children's behavioral characteristics (e.g., "My child gets upset easily over the smallest things"). The Stress score in total is an indication of the overall level of parenting stress and is calculated by summing all of the item scores on the PSI-SF. Higher scores refer to higher level of parenting stress, and scores over 90 represent highly stressful parents. The Cronbach's alpha for the parenting stress composite in this study was 0.78; and the alphas for the Parental Distress, Parent-Child Dysfunction, and Difficult Child subscales were 0.79, 0.88, and 0.76, respectively.

Negative Parenting Styles

The Parenting Styles and Dimensions Questionnaire—Short Version (PSDQ-32) was used in this study to measure

Table 2 Means, Standard deviations, and correlations among variables

Variables	M (SD)	Correlations						
		1	2	3	4	5	6	7
Parenting Stress								
1. Parental Distress	33.98 (6.68)	1						
2. Parent-Child Dysfunction	35.72 (6.52)	0.57***	1					
3. Difficult Child	30.20 (7.91)	0.56***	0.52***	1				
Negative Parenting								
4. Authoritarian	2.55 (0.62)	0.42***	0.43***	0.62***	1			
5. Permissive	2.76 (0.61)	0.41***	0.41***	0.49***	0.68***	1		
Child Behavior Problems								
6. Anxiety-Withdrawal	2.98 (0.72)	0.36***	0.38***	0.65***	0.62***	0.55***	1	
7. Anger-Aggression	2.83 (0.79)	0.52***	0.48***	0.74***	0.67***	0.58***	0.69***	1

***$p < 0.001$

different parenting styles. It is a short version of the 62-item original Parenting Styles and Dimensions Questionnaire (PSDQ) (Robinson et al. 2001). The PSDQ-Short Version has 32 items, and is a self-report measuring tool for parenting practices that are characteristics of each of Baumrind's (1971) three major prototypes of parenting styles including authoritative, authoritarian and permissive parenting styles. This measurement tool is appropriate for use by parents of preschool and school-age children, and taps into authoritative parenting, authoritarian parenting, and permissive parenting styles. In this study, only authoritarian and permissive parenting styles were used to represent the negative parenting styles. This tool has several subscales related to each specific parenting style. Each subscale includes several descriptions of specific parenting practices. Physical coercion, Non-Reasoning, and Verbal hostility are the subscales related to the authoritarian parenting style. In total, there are 12 items in this scale; sample items from the authoritarian scale include "yells or shouts when child misbehaves"; "punishes by taking privileges away from child with little if any explanation"; "spanks when our child is disobedient". Permissive parenting style consists of an indulgent subscale with 5 items such as "spoils child"; "threatens child with punishment more often than giving it"; "finds it difficult to discipline child". The items were rated by the parents based on the 5-point Likert-type scales ranging from 1 (Never) to 5 (Always). The Cronbach's alphas for sub-factors of the authoritarian scale were 0.72 for Physical coercion, 0.72 for Non-reasoning, 0.64 for Verbal hostility; and that of the indulgent subscale of permissive parenting style was 0.58.

All these three measures (the SCBE-30, PSI-SF, and PSDQ) have shown evidence of good validity and reliability in assessing child behavior problems (Liu et al. 2012), parenting stress (Yeh et al. 2001) and parenting styles (Fu et al. 2013) in Chinese culture and are thus suitable for use with the Chinese sample in this current study.

Data Analyses

SPSS 24.0 and Amos 24.0 were used to conduct all analyses in this study (Arbuckle 2016; IBM Corp 2016). To address the characteristics of the variables in the current study, SPSS 24.0 was used to compute descriptive statistics which are presented in Table 2. Furthermore, Pearson's bivariate correlation coefficients were computed to examine the associations among the main study variables. According to Cohen (1988), correlations around 0.10 is classified as "small", around 0.30 as "moderate", and 0.50 or above as "large". The mediation effect of the full theoretical model (MacKinnon and Fairchild 2009) was analyzed by using Amos 24.0 based on Maximum Likelihood Estimates (Arbuckle 2016). Parenting stress served as an independent indicator, negative parenting styles as mediator, and child behavior problems as dependent indicator. The overall model fit was examined by using the following fit indexes (Hu and Bentler 1999): Chi-square/df ratio (x^2/df) statistic, Normed Fit Index (NFI), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). When x^2/df is below 3, NFI, GIF, CFI are greater than 0.9, and RMSEA is below 0.08, then the model is considered to fit the data adequately (Hooper et al. 2008).

Results

Descriptive Statistics and Preliminary Analyses

Descriptive statistics of the study variables including means, standard deviations, and correlations are presented in Table 2. As revealed by bivariate associations between independent variables, dependent variables and the mediating variables, significant medium-to-high correlations ranging from 0.36 to 0.74 were found, all at $p < 0.001$ level (two-tailed).

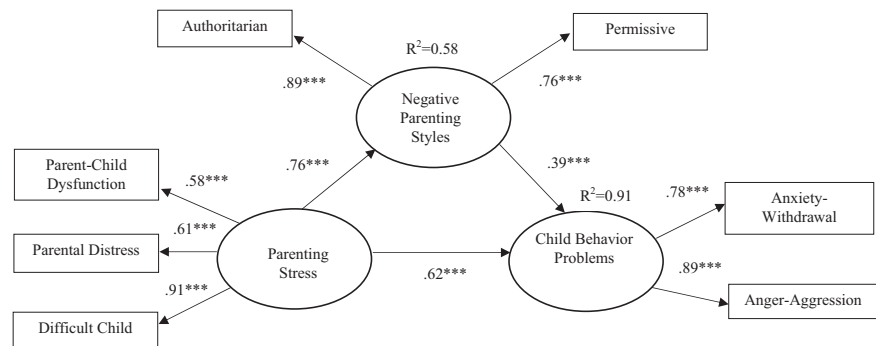**Fig. 1** Results of the structural model with all the study variables. All paths are significant at $p < 0.001^{***}$ level

Table 3 Model Fit of Mediation Model

Overall Fit Index	x^2	df	x^2/df	NFI	GFI	CFI	RMSEA
			<3	>0.9	>0.9	>0.9	<0.08
Default Model	24.435	10	2.443	0.983	0.982	0.990	0.062

Testing the Mediating Role of Negative Parenting Styles in the Relationship between Parenting Stress and Child Behavior Problems

The full theoretical model was examined by using Amos 24.0 based on Maximum Likelihood Estimates. This model tested the direct effect of parenting stress on child behavior problems (externalizing and internalizing behaviors), and the mediating role negative parenting styles played on the relationship between parenting stress and child behavior problems (see Fig. 1). In addition, all variables in this model were latently constructed.

The results showed that the model fit the data well (x^2/df = 2.443, NFI = 0.983, GFI = 0.982, CFI = 0.990, RMSEA = 0.062). All paths in this model were significant at $p <$ 0.001 (see Table 3). The standardized path coefficient of the direct path from parenting stress to child behavior problems was 0.62. The indirect effect through negative parenting styles was computed as the product of the standardized path coefficient from parenting stress to negative parenting styles and the standardized path coefficient from negative parenting styles to child behavior problems, i.e., 0.76*0.39 = 0.296. The total effect was the sum of the direct and indirect effects, i.e., 0.62 + 0.296 = 0.916 (see Fig. 1 for details). The standardized indirect effect of child behavior problems from parenting stress accounted for over 30% (indirect effect of 0.296 over total effect of 0.916) of the standardized total effect (0.920). Therefore, even the relationship between parenting stress and child behavior problems was highly correlated (r = 0.62), the partial mediation effect of negative parenting styles on the relationship between parenting stress and child behavior problems existed.

Discussion

In this study, a model which included three latent constructs, i.e., parenting stress, child behavior problems, and negative parenting styles was tested by using structural equation modeling. The results demonstrated that negative (authoritarian and permissive) parenting styles partially mediated the effect of parenting stress on child behavior problems in this study. According to the correlations between the study variables, it was shown that the more parenting stress experienced by parents, the more negative parenting styles (i.e., authoritarian and permissive parenting styles) parents adopted whereas authoritarian and permissive parenting styles were positively related to child behavior problems. These results are consistent with previous studies which reported that parenting stress was associated with negative parenting styles (Crnic and Low 2002; Deater-Deckard and Scarr 1996; Webster-Stratton 1990); and that negative parenting styles and practices were associated with negative child developmental outcomes such as children's internalizing and externalizing behavior problems (Campbell 1995; Cole and Rehm 1986; Crnic and Low 2002; Pinquart and Kauser 2018; Stormshak et al. 2000). Higher levels of parenting stress have been found to result in parental dysfunction which includes negative parenting behaviors (Abidin 1983) such as showing more authoritarian parenting, e.g., harsher disciplines and the use of physical punishment (Deater-Deckard and Scarr 1996). Several studies which examined the relationship between parenting stress and parenting styles found that the more parenting stress parents experienced, the more they adopted an authoritarian parenting style in their parenting behaviors, resulting in more negative interactions with their children. Webster-Stratton (1990) pointed out that when parents experienced stress at home, it could disrupt their parenting functioning which included showing more irritable behaviors, and negative parenting styles in response to the stressful situations. Likewise, Anthony et al. (2005) also reported that parents who experienced higher level of parenting stress were more likely to exhibit more authoritarian parenting behaviors including corporal punishment toward

their children. As a result, child behavior problems could be influenced by different negative parenting styles when their parents experience different levels of parenting stress.

The direct relationship between parenting stress and child behavior problems was supported by their strong correlations (with rs ranging from 0.36 to 0.74, p-levels < 0.001). In this study, parenting stress was positively related to child behavior problems, i.e., increase in experienced parenting stress was associated with higher levels of child behavior problems. The direct relationship between parenting stress and child behavior problems has been supported by a large body of research (e.g., Deater-Deckard and Scarr 1996; Mackler et al. 2015). In addition, the indirect effect of negative parenting styles mediating the relationship between parenting stress and child behavior problems has been supported in this model, these results are in line with Abidin's (1992) proposed theoretical model on parenting stress, parenting, and child behavior which hypothesized that negative parenting practices may be heightened by parenting stress, and these negative parenting practices could then affect children's behaviors; and with Deater-Deckard and Scarr's (1996) assumption about the mediating role of negative parenting styles on the relationship between parenting stress and child misbehavior. Our result of the existence of the partial mediation effect of negative parenting styles on the relationship between parenting stress and child behavior problems also lends support to Crnic and Low's (2002) proposition that children's developmental outcome such as children's behavior may not be a direct effect of parenting stress, but instead, it is parenting stress that influences parenting practices and behaviors which then affect children's behavior.

In conclusion, findings from this study showed the importance of understanding parents' experience of parenting stress toward their parental role and its effect on children's development, especially on child behavior problems. Parents are the primary caregivers of young children and their words and deeds continuously contribute to children's development in many possible ways, therefore, a better understanding of parenting stress may provide parents with some guidance to adjust their negative feelings and/or reactions toward the stressful experiences involved in parenting. It is also important to understand that parenting stress could be a risk factor for dysfunction in parenting as well as child behavior problems (Mackler et al. 2015).

Implications

This study demonstrates the importance of understanding parenting stress, and its relationship with child behavior problems. In addition, it provides support to the link between increased parenting stress and more authoritarian and permissive parenting styles (negative parenting styles), which

may, in turn, affect child behavior problems. According to Luster and Okagaki's (1993) Ecology of Parenting, it shows that parenting as shaped by various factors and family stress (especially parenting stress) is one of the key determinant factors influencing children's developmental outcomes. Luster and Okagaki's model indicated that parents will suffer from parenting stress when there is a mismatch between the demands from their children and the parents' ability to satisfy such demands. Parenting stress is common and influential, therefore, it is important to help parents to identify the stress they experience and to assist them to gain access to resources that can support them to alleviate their stressful experiences as a parent. According to Abidin's (1992) Model of Determinants of Parenting Behavior, resources such as social support, parenting skills competences, parenting alliance, cognitive coping skills, and material resources are important to parents. Parents could utilize these resources to support their parenting behaviors and functioning. A smooth transition to parenthood can help reduce stress, therefore, it is necessary to provide novice parents with practical guidance and training in how to bring up their children. Moreover, psychological counselling is also important to parents. Increased parenting stress may be a consequence of insufficient or even the lack of coping strategies in dealing with the various issues in raising a child.

For children, the emergence of behavior problems at an early age may be affected by parents' experience of parenting stress. The higher parenting stress the parents experience, the higher the possibility of their children having behavior problems. Heightened parenting stress strains the family atmosphere and intensifies the parent-child relationship. Young children are vulnerable to environmental stressors caused by their parents' parenting stress, and in turn, children are more likely to engage in Anger-Aggression or Anxiety-Withdrawal behaviors. Behavior problems in children may lead to peer rejection, peer victimization and even being disliked by teachers, thus, it is important for adults to prevent children from engaging in problematic behaviors. These also highlights the need for programs to help parents and children develop resilience in order to prevent the negative effects of daily stressors, e.g., developing and promoting programs, materials, and/or workshops for building and maintaining positive parent-child relationship (these serve as a buffer for possible effects of negative parenting and parenting stress, thus, less child behavior problems); building and enhancing children's emotion regulation, problem solving, communication, negotiation, and social skills (these serve as protective qualities against child behavior and emotional problems); and building and facilitating peer relationships by offering more opportunities for social experiences among parents and children in a safe environment (these serve as social support for improvement of parenting skills, relief for daily

and parenting stress, and reduction in child behavior problems) (Blair and Raver 2012; Thompson 2014).

Given that parenting stress could impact child behavior problems through negative parenting styles, the importance of positive parenting style is evident. Therefore, the assessment of parenting styles could be useful as a screening tool so that parents could be advised to adjust their parenting styles to be more positive, i.e., warmer, more responsive, and to create a positive home environment that would minimize the negative effect of parenting stress on child behavior problems.

Limitations and Future Research

This research has several limitations. Firstly, it is a cross-sectional research, not longitudinal which would be more reliable as it could better demonstrate the trajectories of parenting stress, parenting behaviors, and child behavior problems. Secondly, the data from parents' reports may be biased to a certain extent. Therefore, more research methods are necessary for deeper exploration, such as including other's report, classroom observations, and face-to-face interviews in order to obtain more accurate and complete assessment. Thirdly, the sample size is not large enough. Lastly, since negative parenting styles only partially mediated the effect of parenting stress on child behavior problems in this study, other mechanisms through which parenting stress may result in child behavior problems exist. For instance, factors such as job demands, health concerns, economic/financial issues and difficulties, child conditions and characteristics, and poor family relationship can also contribute to parenting stress which could trigger emotional and/or behavioral problems in children; besides, poor family relationship could also be a consequence of parenting stress which influences child behaviors. Future studies can include these variables in the framework and in data collection so as to gain more understanding about other possible underlying mechanisms at work.

From a contemporary view of parenting research (Smetana 2017), increase in specificity of the dimensional approach to parenting enhances the precision of how parenting is defined, moreover, parenting practices are context dependent and varied by culture, such practices could also be child-driven processes influenced by children's developmental trend and status. Therefore, contextual and cultural factors such as cultural values, indigenous concepts, family socioeconomic status (SES), and parenting beliefs could all exert influences on parenting and child outcomes. Future research can adopt this contemporary, more specific dimensional approach to parenting and to include more contextual and cultural variations in its investigation to better understand the effects of parenting on children's developmental outcomes.

Despite such limitations, this research study has added contribution to the existing literature on parenting and child development by simultaneously examining all three variables (including parenting styles, parenting stress, and child behavior problems) and showing that negative parenting styles partially mediated the relationship between parenting stress and preschoolers' behavior problems in the Chinese context. This provides further support to the important but scarcely/insufficiently investigated mediation model which could serve as a foundation for future studies and grounding for practical implications to issues related to parenting stress, parenting behaviors, parent-child relationship, and child behavior problems for the mutual benefits of parents, children, and family relationships at large.

Compliance with Ethical Standards

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