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Committed Compliance and Maternal Parenting Behaviors Predict Internalization of Rules and Externalizing Behaviors in Chinese Preschool Children

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ABSTRACT

This study investigated how parenting behaviors and child committed compliance predicted internalization of rules and externalizing behaviors throughout early childhood. Participants were 95 Chinese mother-child dyads. Maternal respect for autonomy and negative control were observed in free-plays at 14 and 25 months. Toddlers' committed compliance was coded in a cleanup task at 25 months. At 60 months, internalization of maternal rules and experimenter rules were observed. Externalizing behaviors were reported by mothers on the Strengths and Difficulties Questionnaire. *Research Findings:* Results showed that child committed compliance predicted higher internalization of maternal rules and lower externalizing behaviors overtime. For children with high committed compliance, respect for autonomy in toddlerhood was positively associated with internalization of maternal rules and negative control in toddlerhood was positively associated with externalizing behaviors. Conversely for children with low committed compliance, respect for autonomy was associated with lower internalization of maternal rules, whereas negative control was associated with higher internalization of experimenter rules and fewer externalizing behaviors. *Practice or Policy:* Findings support a goodness-of-fit model for the moderations of committed compliance on the relations between maternal behaviors and social adjustment, suggesting that interventions designed to promote Chinese children's social adjustment may benefit from considering the fit between early parenting and child self-control.

Most children are inherently motivated to follow and internalize the behavioral rules (Kochanska, 2002). Some children, however, do not sufficiently internalize those standards of conduct and some are even at risk for developing externalizing symptoms (Camodeca & Coppola, 2016). Preschool internalization of rules and externalizing behaviors are two critical indicators of social adjustment that have been shown to exhibit cascading influences on peer relationships (Blair et al., 2015), academic achievement (Burt & Roisman, 2010), and social competence (Kochanska et al. (2010) in childhood and adolescence. Therefore, it is important to investigate the early developmental processes of preschool internalization of rules and externalizing behaviors so that researchers and educators could help in socializing young children to eventually become well-adjusted, socially competent members of society.

Research has shown that individual differences in internalization of rules or externalizing behaviors are shaped by socialization factors, such as parenting, and individual factors, such as child behavioral

characteristics, in toddlerhood (Bates et al., 1998; Kochanska & Aksan, 1995). However, our understanding of how toddlerhood parenting behaviors, together with child characteristics, predict preschool social adjustment remains limited for children from non-Western countries (e.g., Chinese children). Further examining these longitudinal predictions may contribute to our knowledge of cultural similarities and differences in the related developmental processes. Practically, such knowledge has the potential to assist in setting goals and making global policies for child development in the first a few years of life (e.g., Early Childhood Development Index 2030, UNICEF, 2020). Moreover, a fuller understanding in this regard may allow us to design interventions targeting these antecedents in toddlerhood and thereby promoting child social adjustment early on. This can be particularly relevant for Chinese families where the focus on early childhood social adjustment in relation to parenting behaviors and child characteristics has just gained slight research attention.

The current study, therefore, aimed at addressing three specific gaps in the literature. First, the links between social adjustment and parenting behaviors that respect or deny child autonomy have been found for school-aged children and adolescents (e.g., Pinquart, 2017). Yet these links have been less often studied in early childhood. Particularly, little is known about the role of these parenting behaviors in social adjustment of young children in China where traditionally such parenting behaviors are not highly valued (Liu et al., 2009). Second, although some studies have found that young children's tendency to comply with rules may contribute to later social adjustment in Western cultures (e.g., the U.S., Kochanska et al., 2013), other studies in Western cultures have not (e.g., Harden et al., 2015). Thus, it is unclear whether such developmental continuity is universal across cultures. Third, few studies have considered the interplay between early parenting and the tendency to comply with rules when examining their relevance to social adjustment. Thus, drawn from a longitudinal sample of Chinese families, this study aims at examining how parenting behaviors and child committed compliance predict internalization of rules and externalizing behaviors from toddlerhood to the preschool years.

Parenting Behaviors in Toddlerhood and Preschool Social Adjustment

Autonomy (i.e., independent actions to control and realize mental states such as wishes, intentions, and preferences; Keller, 2012) is a need important for child social adjustment and its role becomes central in toddlerhood (Côté-Lecaldare et al., 2016). At this age, mothers are the primary socializing agent and maternal behaviors that respect or deny child autonomy are firmly associated with the development of social adjustment. Mothers show respect to autonomy by encouraging child initiatives, providing choices, and explaining her demands (Matte-Gagné et al., 2015). In contrast, mothers hinder toddlers' autonomy by using negatively controlling behaviors (e.g., threatening, criticism, and physical force) to pressure children to change their thoughts and behaviors (Laurin & Joussemet, 2017).

Theoretically, maternal respect for autonomy facilitates proficiencies in internalization of rules and prevents or reduces externalizing behaviors, whereas maternal negative control is detrimental to the natural proneness of internalizing rules, eventually culminating in externalizing behaviors. From a self-determination theory perspective, respect for autonomy helps children experience volition in their actions and, in turn, these actions are perceived as in accord with abiding values (Ryan et al., 1997). Negative control, on the other hand, triggers children's internal pressure of undue loyalty to their parents and, in the long term, their regulation and integrity is undermined (Soenens & Vansteenkiste, 2010). However, mixed empirical findings have been shown on how these two parenting behaviors predict internalization of rules and externalizing behaviors in early childhood among samples from Western cultures.

For maternal respect for autonomy, inconsistent relations with internalization of rules have been found. A positive link with internalization of rules was found in one study (Kerr et al., 2004) while no relation was found in another study (Kochanska & Aksan, 1995). Similarly, different associations between maternal respect for autonomy and child externalizing behaviors have also been reported.

A positive association with toddlers' defiant, noncompliant behavior was found (Dix et al., 2007), a negative association with externalizing behaviors was found (Blatt-Eisengart et al., 2009), whereas another study found no association (Puff & Renk, 2014).

For maternal negative control, relatively consistent relations have been found with internalization of rules. Negative control positively predicted toddlers' nonconcern for violating rules (Kochanska et al., 1999) and negatively predicted internalization of rules in the preschool to school years (Kochanska et al., 2003). Relations with externalizing behaviors, however, were less consistent for negative control in toddlerhood. Although positive relations with externalizing behaviors concurrently and longitudinally were found in several studies (Blatt-Eisengart et al., 2009; van Aken et al., 2007b; Yan et al., 2019), no relation was found in other studies (Rubin et al., 2003; van Aken et al., 2007a).

Inconsistencies in the relations between respect for autonomy or negative control and child social adjustment could be partially explained by methodological issues in the studies, such as including only one parenting dimension, measuring parenting behaviors by different methods (parent report or observation), assessing parenting behaviors and child social adjustment with varying age gaps, to name a few. To elucidate relatively precise predictions of these two parenting behaviors, we coded and included both maternal respect for autonomy and negative control. The free-play task was used to maximumly mimic mother-child interactions in a naturalistic setting. Moreover, these parenting behaviors assessed at two child ages in toddlerhood were combined to increase the reliability of assessment.

Chinese Mothers' Parenting Behaviors in Toddlerhood

In regard to Chinese families, with the sociocultural milieu changing from an agrarian, planned economy into an industrialized, market economy, Chinese mothers' socialization goals are also changing. Traditionally, Chinese mothers have been found to emphasize hierarchy in the family and children were required to be obedient and respectful for adult authority (Keller, 2012). However, with the relatively recent economic prosperity and increased number of urban Chinese parents acquiring higher levels of education, contemporary Chinese mothers are expected to, on the one hand, still instill in children conformity to family rules and maintenance of adult authority, and on the other hand, nourish autonomy in their children (Keller, 2012). This change in socialization goals calls into question what the roles of maternal respect for autonomy and negative control play in Chinese preschoolers' social adjustment. Yet the answer to this question remains unknown owing to a dearth of research.

As far as we know, only three studies have been conducted to examine these associations and they all focus on externalizing behaviors. While one study found that negative control at age 4 positively predicted externalizing behaviors 1 year later (Liu & Wang, 2015), two earlier studies found that respect for autonomy at age 2 did not predict aggressive behaviors at age 4 (Chen et al., 2002; Liu et al., 2009). Although the empirical evidence is too sparse to draw firm conclusions, it is possible that negative control, but not respect for autonomy, may be potentially relevant for Chinese children. But it should be noted that no studies have examined these relations for internalization of rules with Chinese children.

In brief, how respect for autonomy and negative control predicts child later internalization of rules and externalizing behaviors is still unclear for Chinese families. Given that the need for autonomy becomes essential from toddlerhood on, investigating the developmental relevance of parenting behaviors that respect or deny a toddler's autonomy may be especially informative for designing interventions targeting such parenting behaviors to eventually promote child social adjustment. Moreover, respect for autonomy is gradually emphasized in Chinese society, investigating the role of this parenting behavior in the development of social adjustment may be critical to understand contemporary Chinese parenting. Notably, respect for autonomy and negative control should be examined together as these maternal behaviors might show different developmental relevance to Chinese children. Thus, the first aim of this study is to examine whether respect for

autonomy and negative control in toddlerhood predict later internalization of rules and externalizing behaviors in Chinese families.

Child Compliance in Toddlerhood and Preschool Social Adjustment

In addition to early parenting behaviors, another important predictor of social adjustment is the child tendency to comply with rules. Two types of compliant behaviors have been distinguished in the literature: committed compliance and situational compliance. Committed compliance refers to autonomously following standards of conduct with little parental intervention, which is in contrast to situational compliance whereby frequent prompts are needed to get the child to comply (Kochanska & Aksan, 1995). Moreover, committed compliance is seen as a trait-like quality reflecting a child's willing stance to embrace parental agendas, which is partially rooted in temperamental characteristics of inhibition and self-control (Kochanska & Aksan, 2006; Kochanska et al., 2001). In contrast, situational compliance is primarily extrinsically driven and unrelated to child temperament (Kochanska et al., 2001). Varying from situational compliance in nature, committed compliance has been recognized as a critical achievement in toddlerhood with potential to foretell later social adjustment (Kochanska, 2002; Kochanska et al., 2001).

Supporting such predictions of committed compliance, the positive developmental continuity from committed compliance to later internalization of rules has been well-established (e.g., Kochanska et al., 2001; an exception though: Harden et al., 2015). From toddlerhood to the preschool years, a critical shift occurs from external monitoring of behavior to more self-regulated behavior in the absence of surveillance (Kochanska et al., 2001). Compared with toddlerhood committed compliance, preschool internalization of rules contains a higher level of self-relevance and is generalized to other adults, such as experimenters and teachers (Kochanska et al., 2003). Moreover, milder externalizing symptoms such as defiance and rule-breaking were often found among children with low levels of committed compliance (Kochanska et al., 2013).

Although these links have been extensively studied in Western cultures, to our best knowledge, no studies have confirmed these links in young Chinese children. It is important to examine whether the continuity from committed compliance into more internalized self-regulated behavior in the absence of adults' supervision during the toddler-to-preschool period is universal across cultures. Similarly, it is important to examine the association of committed compliance and externalizing behaviors to determine whether such a link could be found in non-Western children. We surmise that such knowledge may add to the understanding of cultural similarities and differences in the early development of social adjustment. Therefore, the second aim is to investigate the associations between committed compliance in toddlerhood and internalization of rules and externalizing behaviors at the preschool years in Chinese children.

Interactions between Parenting Behaviors and Child Compliance

Theorists have suggested that children react differentially to maternal parenting behaviors dependent on their different tendencies to comply with rules (Grusec et al., 2017). This implies that the predictions of maternal respect for autonomy or negative control might vary depending on child committed compliance. Our examination of such moderations is guided by a goodness-of-fit model (e.g., Bates et al., 1998). In this model, which aspect of parenting would promote or hinder a child's social adjustment would be determined by a child's level of committed compliance. Social adjustment is promoted when a "good" fit occurs between maternal behavior and child committed compliance. Otherwise, a "poor" fit occurs and social adjustment is compromised.

For a good fit, children with higher self-control thrive when parenting behaviors are supportive and autonomy-granting, whereas children with lower self-control benefit from controlling behaviors (see Kiff et al., 2011 for a review). Respect for autonomy would scaffold internalization of rules for children with a high level of committed compliance as they already have adequate compliance skills to have

internalization being calibrated by this maternal behavior (Ryan et al., 1997). Relatedly, these children would also be less likely to reject maternal authority or agendas defiantly and aggressively (Camodeca & Coppola, 2016). In comparison, negative control would facilitate internalization of rules for children with a low level of committed compliance because their internalization would depend more on maternal external regulations as a compensatory process. Relatedly, these children would show fewer externalizing behaviors as this maternal behavior may help in correcting their noncompliant responses to maternal agendas (Kiff et al., 2011).

For a poor fit, social adjustment is undermined for children with higher self-control when their autonomy and independence is hampered by controlling parenting while the adjustment of children with lower self-control is poorer when their assertion for independence is excessively granted (Kiff et al., 2011). Negative control would hinder internalization of rules and trigger aversive and defiant responses to maternal agendas in children with a high level of committed compliance because of a mismatch between this maternal behavior and their self-control level. In contrast, respect for autonomy would hamper internalization of rules for children with a low level of committed compliance as they are too immature to benefit from allowing their own initiatives and independence for internalization development. These children would also show more externalizing behaviors because allowing independence may be recognized as a maternal sanction of uncooperativeness and defying rules.

As far as we know, only two empirical studies have examined whether the association between respect for autonomy or negative control and child externalizing behaviors was modified by child tendency to comply with rules. Among U.S. toddlers, for children high on compliance (low resistance to control) negative control positively predicted childhood externalizing behaviors, whereas no association was found for toddlers low on compliance (high resistance to control) (Bates et al., 1998). However, among a sample of Chinese children, longitudinal associations between respect for autonomy or negative control in toddlerhood and preschool aggressive behaviors were not modified by a child's compliance level (Chen et al., 2002).

These past results may be attenuated, however, since no study focused specifically on committed compliance which, as noted earlier, represents a child's willingness to follow standards of conduct with a relatively autonomous underlying motivation. To our knowledge, no studies have examined this model for internalization of rules either. Therefore, to address this dearth of research, the third aim of the current study was to examine whether maternal respect for autonomy and negative control are associated with later internalization of rules or externalizing behaviors dependent on child committed compliance.

The Present Study

In summary, the goals of the current study are threefold. First, we examined the direct predictions of maternal respect for autonomy and negative control in toddlerhood to internalization of rules and externalizing behaviors during the preschool years. Second, we examined the longitudinal associations between committed compliance in toddlerhood and later internalization of rules and externalizing behaviors. Third, we examined how the predictions of respect for autonomy and negative control to internalization of rules and externalizing behaviors vary depending on child committed compliance.

Examining these three research questions has the potential to help in designing future interventions aiming at facilitating internalization of rules and mitigating externalizing behaviors in early childhood. For instance, our findings could possibly reveal the pattern of combinations between parenting behaviors and child committed compliance for which a high level of internalization of rules and a low level of externalizing behaviors would occur. Thus, parents would be advised to learn how to adjust their frequencies of respect for autonomy or controlling behaviors according to the exact level of child committed compliance, ultimately improving their children's social adjustment.

Method

Participants

The sample was drawn from the “BELONGS 2010” (Beijing Longitudinal Study 2010; Dong et al., 2018), a 7-wave longitudinal study of Chinese children and their parents that began in 2010 when children were 6 months old. The initial sample was recruited from maternity and well-baby clinics of Beijing regional hospitals or through distributing brochures in person around the university campus to families with babies aged between 3 and 5 months old. In the current study, we limited the sample to the children who participated at least once during the wave 3 (14.09 ± 0.84 months, $n = 78$), wave 4 (24.80 ± 1.13 months, $n = 76$), or wave 6 assessments (60.35 ± 0.72 months, $n = 77$).

The attrition analyses revealed that compared with those who dropped out from the project for their personal reasons (e.g., moved to another city, too busy) before wave 3 ($N = 21$, 7 girls and 14 boys), the included 95 children (53 girls and 42 boys) and their families tended to have a higher maternal education status, Mann-Whitney U test, $Z = 1.94$, $p = .05$. No differences were found on parental monthly income, parental ages, and paternal education status. The mothers were on average 30.89 years ($SD = 3.39$) and the fathers were on average 32.70 years ($SD = 3.90$) when recruited. With the modes of maternal monthly income between 1,500 and 6,000 yuan, paternal monthly income above 10,000 yuan and approximately 95% of parents having completed a college or postgraduate education, the included sample was mainly from the highly educated population in Beijing, China.

Procedure

There were a home visit and a laboratory visit at 14 and 25 months and each lasted approximately 2–2.5 hours. We focused on the assessments during the home visit. At 14 months, the mother-toddler dyads participated in two 5-min free-plays, for which the female experimenter presented age-appropriate toys and videotaped maternal verbal and nonverbal behaviors. The mother was instructed to interact with the child as she normally would in the free-play tasks. At 25 months, similar free-play tasks were conducted first. After the second free-play, the experimenter introduced the cleanup task and instructed the mother to give directives to have the child clean up all the toys. The mother was told to guide (e.g., put away one toy as a demonstration), but not directly help her child with the task for a maximum of 3 min or until the child had put away all the toys. Then, the mothers were given a battery of questionnaires to complete on their own, including those assessing children’s receptive and productive language, and were asked to bring them back during the laboratory visit.

At 60 months, a week before the laboratory visit, the mother received a battery of questionnaires including the scales measuring child externalizing behaviors and was requested to bring them back completed during the laboratory visit. Families were invited to visit the laboratory for 2.5 hours. First, the experimenter introduced the internalized cleanup task to the mother alone. After the free-play task, the experimenter told the child that his/her mother had to fill out some questionnaires outside the room. The mother requested the child to clean up dozens of Lego toys left on the floor into a box according to the standard rules (based on different colors and whether it is a “human figure” or an “animal”) during her absence. After making sure the child understood how to sort the toys, the child was left in the room alone for 5 min or until he/she had put away all the toys.

Next, the experimenter guided the child to play a ball-throwing game. In the practice session, the child had one or two trial(s) of throwing the ball(s) to a dartboard affixed on the wall at a close distance. The experimenter tempted the child by “showing” one bin with the wrapped “OK” gifts if he/she could hit the dartboard and promised to prepare an “extremely special” gift if he/she could hit the red area in the center. After the practice session, the experimenter introduced the rules of the game (details in the Measures section) and checked if the child understood the rules. The experimenter explained the meaning of the word “cheating” and emphasized that breaking the rules was “cheating,” then left the child to play alone for 3 min. The rules made the game extremely difficult to win. Upon

return, the experimenter “discovered” that she used “the rules for the adult,” and invited each child to play again and gave a special trophy to them.

At each wave, a DVD including videos of interactions was sent to all the families as the gift. Two master students who were blind to the hypotheses coded maternal respect for autonomy and negative control at 14 and 25 months. Another two independent master students coded committed compliance at 25 months and internalization of rules at 60 months.

Measures

Maternal Behaviors at 14 and 25Months

The free-play tasks at 14 and 25 months were coded for maternal respect for autonomy and negative control by using an event sampling and episodic coding system (Liu et al., 2009). Any verbal (and accompanied nonverbal) behavior was coded as present if it matched the description of an event. The duration of each behavior was further coded by every 5-s segment (e.g., the duration of 3 s gets 1 code, 7 s gets 2 codes, and 11 s gets 3 codes).

Respect for autonomy refers to those maternal behaviors that encourage a child to initiate and maintain activities or provide choices to a child. These behaviors include suggestion, explanation, providing choices, positive reinforcement, and directions without force (Cheng et al., 2018). To be coded as respect for autonomy, mothers should use a suggestive (rather than directive or harsh) tone of voice and her verbal behavior should meet at least one of the following criteria (Cheng et al., 2018): (1) Mother follows the child’s pace and ensures that the child plays an active role in the interaction; (2) Mother intervenes or encourages child according to the child’s state at the moment. For example, a child seemed hesitant about which toy fruit to play with. The mother waited patiently and encouraged gently, “Which one do you like?”

Negative control refers to maternal behaviors that discourage or interrupt a child’s initiatives and ongoing activities. These behaviors include commands with force, reprimand, intrusiveness, prohibition, overt disapproval, and threatening (Liu & Guo, 2010). Negative control was coded when the mother used a coercive tone of voice and the verbal behavior matched one of the two criteria (Lengua, 2009): (1) Mother interrupts the child’s ongoing activities or physically restricts the child’s activities; (2) Mother intervenes in the child’s state following her own wishes rather than taking the child’s perspective. For example, a child was pulling the truck which did not move, the mother warned strictly, “Stop it! Don’t do that!”

The coding system was translated from English to Chinese. During the coding session, any discrepancies between the two coders were solved through discussion. Based on 15% of the videos, the kappa values for the overall coding scheme were .93 at 14 months and .97 at 25 months. The frequencies of respect for autonomy and negative control were counted and then averaged to each 1 min.

Additionally, we transcribed the conversation between mother-child dyads during the free-play tasks and calculated the average number of words mothers spoke with their child in each 1 min as we noticed that mothers varied considerably in this potentially confounding variable. To rule out the influences of how many words a mother spoke, the proportions were created by dividing the frequency of respect for autonomy or negative control in 1 min by the number of words a mother spoke in 1 min. We further combined respect for autonomy ($r = .32, p < .01$) and negative control ($r = .34, p < .01$) across 14 and 25 months to enhance the reliability. The proportion of each behavior at each wave was standardized. Then, those standardized scores were averaged across two waves.

Child Committed Compliance at 25Months

In the cleanup task, a child’s behavior within every 10-s segment was coded into one of six mutually exclusive codes by using the Kochanska and Aksan (1995) coding system: committed compliance, situational compliance, passive noncompliance, self-assertion, defiance, and behaviors irrelevant to the task. We used committed compliance which was coded when the child enthusiastically and

continuously puts away the toys needless of maternal prompts. Based on 30% of the videos, the interrater reliability was adequate, the Cohen's $\kappa = .78$. The frequency of committed compliance was divided by the total number of the intervals to create a proportion score for analyses.

Child Internalization of Rules at 60Months

Internalization of Maternal Rules. The internalized cleanup task (Kochanska et al., 2001) was used to measure internalization of maternal rules at 60 months. The task asked a child to take in maternal rules and concentrate on a sorting work. A child's behavior during every 10-s segment was coded into one of two categories: internalized cleanup (child puts away toys wholeheartedly) and oppositional behaviors (child plays with toys, child stops cleaning up and looks around inattentively, or child throws toys on the floor). In addition, since the latency of the first oppositional behavior, reflecting how long a child could hold back the impulse to break rules, was another important indicator of internalization, it was recorded using 1-s units (0 ~ 300 s). Interrater reliability was established based on 20% of the videos, $\kappa = .97$. Because the latency was related to the proportion score of internalized cleanup ($r = .59, p < .01$), the standardized scores of these variables were aggregated into one composite.

Internalization of Experimenter Rules. The cheating game task (Kochanska, 2002) was used to evaluate child internalization of rules conveyed by the experimenter at 60 months. The prohibited cheating behaviors were (a) facing the target instead of throwing backward, (b) leaving the marked area, (c) throwing with the dominant hand rather than the non-dominant hand, (d) retrieving the ball(s) after throwing (five in total), and (e) sticking a ball manually on the dartboard. Six mutually exclusive codes included the above five codes and the code (f) behavior compatible with rules. One code was given for every 3-s segment in a total of 3 min. The latency of the first "cheating" behavior was recorded by 1-s units (0 ~ 180 s). Based on 20% of the videos, the kappa value of two coders was .91. One composite was aggregated from the standardized scores of the proportion of (f) behavior compatible with rules and the square root of the non-normally distributed latency ($r = .35, p < .01$).

Child Externalizing Behaviors at 60Months

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) was used to measure externalizing behaviors. The 25-item SDQ is composed of four 5-item difficulties scales (hyperactivity scale, emotional symptoms scale, conduct problems scale, peer problems scale) and one 5-item strengths scale (prosocial behaviors scale). We focused on externalizing behaviors, which consist of conduct problems (e.g., "often lies or cheats") and hyperactivity problems (e.g., "easily distracted, concentration wanders"). Mothers rated each item on 0 (*not true*), 1 (*somewhat true*), or 2 (*certainly true*). The reliability for externalizing behaviors scales was acceptable, the Cronbach's $\alpha = .71$, and the mean score of externalizing behaviors was used.

Covariate: child Language at 25Months

Child receptive and productive language was controlled for as this cognitive skill is relevant to the understanding of rules and externalizing behaviors. Mothers reported on the Chinese Communicative Development Inventory-Putonghua Version (PCDI; Tardif et al., 2008), which is a reliable measure of words vocabulary and sentences use for Chinese 14- to 26-month-olds (toddler form) (Tardif et al., 2008). With Cronbach's α ranging from .75 to .99, the PCDI-toddler form showed satisfactory to good reliability. The significantly correlated vocabulary and sentences use ($r = .75, p < .01$) were standardized and averaged into one composite.

Analytic Plan

Preliminary analyses and regression models were conducted in *Mplus* (Muthén & Muthén, 1998–2017) by using maximum likelihood estimation with robust standard errors (MLR), which is suitable for small samples with non-normally distributed variables. The assumption of missing

completely at random (MCAR) was tenable, indicated by a nonsignificant result of Little's MCAR test (Little, 1988), $\chi^2(51) = 58.80, p = .21$. Missing data (less than 25.5%) were handled by a full information maximum likelihood method.

Three separate regressions were performed, using internalization of maternal rules, internalization of experimenter rules, externalizing behaviors as dependent variables. Predictors were centered prior to computing interaction terms (Cohen et al., 2003). To answer the questions of whether maternal parenting behaviors and child committed compliance in toddlerhood would directly predict preschool social adjustment, we entered covariates (child gender and 25-month language), maternal respect for autonomy and negative control in toddlerhood, and 25-month committed compliance in step 1 to test the main effects of these maternal and child predictors. To answer the third question of whether child committed compliance would moderate the associations between toddlerhood maternal parenting behaviors and child preschool social adjustment, we added interactions between the two parenting behaviors and committed compliance in step 2. Significant interactions were further probed by estimating regions of significance for committed compliance where relations between maternal behavior and dependent variables were significant.

Results

The means (*M*), standard deviations (*SD*), and correlations of all the variables are shown in Table 1. Girls outperformed boys on 25-month language, Wald test $\chi^2(1) = 6.21, p = .01$, Cohen's *d* = 0.53, and 60-month internalization of maternal rules, $\chi^2(1) = 6.10, p = .01$, Cohen's *d* = 0.52. No gender difference was found on maternal respect for autonomy, negative control, child committed compliance, internalization of experimenter rules, and externalizing behaviors, all $\chi^2(1) < 1.36, ps > .24$.

Committed compliance at 25 months was positively associated with internalization of maternal rules and negatively associated with externalizing behaviors. Externalizing behaviors were negatively related to internalization of maternal rules. However, internalization of maternal rules was not related to internalization of experimenter rules. Maternal respect for autonomy was not associated with negative control and these two maternal behaviors in toddlerhood were not related to any child outcomes at 60 months.

The predictors in toddlerhood are tested for main effects and moderation effects on internalization of rules and externalizing behaviors in Table 2. For main effects (step 1), after controlling for gender and language, 25-month committed compliance positively predicted 60-month internalization of maternal rules and negatively predicted 60-month externalizing behaviors. Neither maternal respect for autonomy nor negative control was predictive of internalization of rules or externalizing behaviors.

After adding the interaction terms (step 2), the relation between respect for autonomy in toddlerhood and internalization of maternal rules was moderated by committed compliance. Follow-up analyses using the region-of-significance technique revealed that for toddlers low on committed compliance (from $M - 1.42 SD$ to $M - 0.87 SD$), respect for autonomy was negatively related to

Table 1. Means (*M*), Standard Deviations (*SD*), and correlations among variables.

Variables	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
14 and 25 months combined										
1. Maternal respect for autonomy	89	-0.01	0.79							
2. Maternal negative control	89	0.04	0.93	.16						
25 months										
3. Committed compliance	71	0.55	0.39	.02	.16					
4. Language	76	0.00	0.93	.11	-.05	.14				
60 months										
5. Internalization of maternal rules	76	0.00	0.89	.07	.22	.36**	.01			
6. Internalization of experimenter rules	77	0.00	0.82	-.13	.14	.16	-.07	.16		
7. Externalizing behaviors	76	0.67	0.30	.07	-.05	-.33*	-.19	-.35**	-.13	

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

Table 2. Committed compliance at 25 months moderates associations between maternal parenting behaviors in toddlerhood and 60-month internalization of rules and 60-month externalizing behaviors (N = 95).

Variables	Internalization of Maternal Rules		Internalization of Experimenter Rules		Externalizing Behaviors	
	$\beta_{\text{step 1}}$	$\beta_{\text{step 2}}$	$\beta_{\text{step 1}}$	$\beta_{\text{step 2}}$	$\beta_{\text{step 1}}$	$\beta_{\text{step 2}}$
<i>Step 1: Main effects</i>						
Gender	-.25**	-.31**	-.11	-.18	.02	.10
Language	-.11	-.09	-.07	-.06	-.13	-.13
Respect for autonomy	.03	.13	-.16	-.11	.12	.12
Negative control	.16	.15	.14	.20	-.06	-.16
Committed compliance	.30**	.28**	.16	.11	-.32*	-.22
<i>Step 2: Moderation effects</i>						
Respect for autonomy \times Committed compliance		.38**		.22		-.05
Negative control \times Committed compliance		-.07		-.23*		.38**
R^2	.20*	.35**	.08	.17*	.15	.26**

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

internalization of maternal rules; whereas for toddlers high on committed compliance (from $M + 0.16$ SD to $M + 1.14$ SD), respect for autonomy was positively related to internalization of maternal rules (see Figure 1).

Moreover, a significant moderating effect of committed compliance was found on the relation between negative control and internalization of experimenter rules. Region-of-significance analyses revealed that when committed compliance was low (from $M - 1.42$ SD to $M - 0.32$ SD) negative control

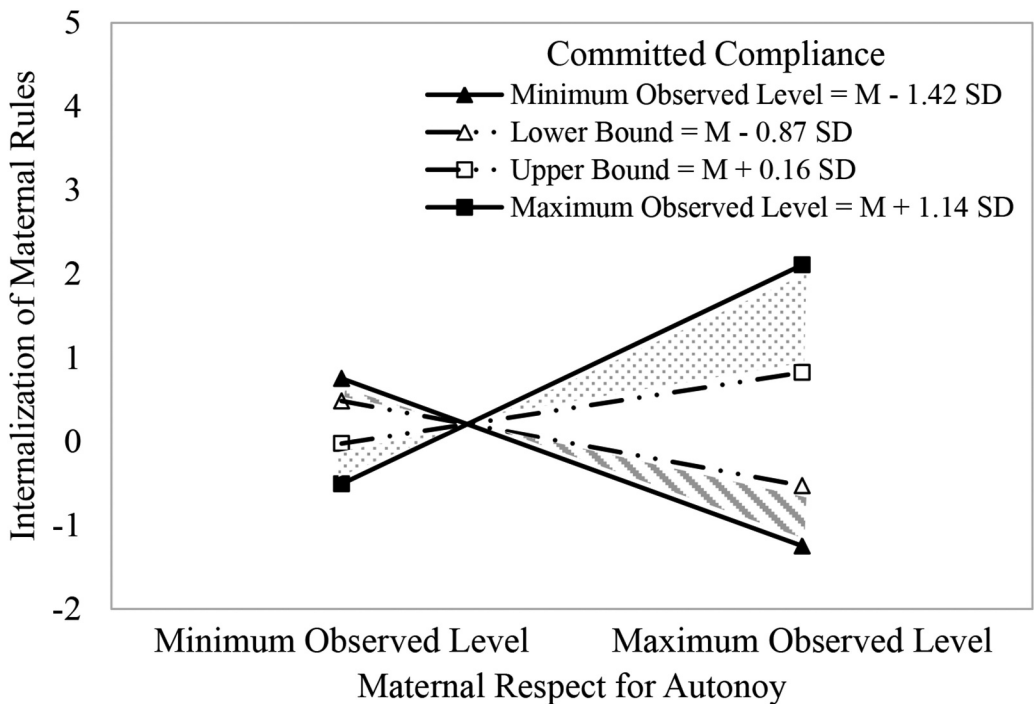


Figure 1. Committed compliance at 25 months moderates the association between maternal respect for autonomy in toddlerhood and internalization of maternal rules at 60 months. The regions-of-significance analyses are based on the observed ranges of committed compliance at 25 months. The dot-shaded area illustrates the significant region representing a positive association between respect for autonomy and internalization of maternal rules when committed compliance is relatively high; the stripe-shaded area illustrates the significant region representing a negative association between respect for autonomy and internalization of maternal rules when committed compliance is relatively low.

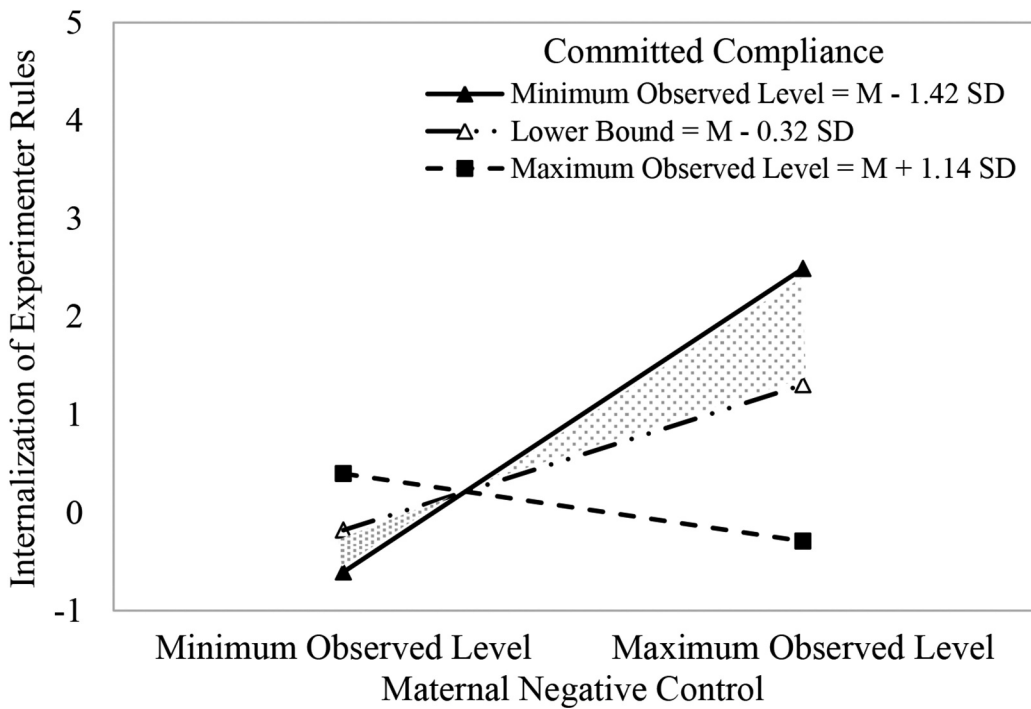


Figure 2. Committed compliance at 25 months moderates the association between maternal negative control in toddlerhood and internalization of experimenter rules at 60 months. The regions-of-significance analyses are based on the observed ranges of committed compliance at 25 months. The dot-shaded area illustrates the significant region representing a positive association between negative control and internalization of experimenter rules when committed compliance is relatively low.

in toddlerhood was positively associated with internalization of experimenter rules, but the association vanished when committed compliance was moderate to high (above $M - 0.32 SD$) (see Figure 2).

Furthermore, committed compliance significantly moderated the relation between negative control and 60-month externalizing behaviors. Subsequent region-of-significance analyses found that when committed compliance was low (from $M - 1.42 SD$ to $M - 1.08 SD$), negative control was negatively related to externalizing behaviors; whereas for children with moderate to high committed compliance (from $M + 0.47 SD$ to $M + 1.14 SD$), negative control was positively related to externalizing behaviors. (see Figure 3).

Discussion

We examined the direct and interactive predictions of maternal parenting behaviors and child committed compliance in toddlerhood to preschool internalization of rules and externalizing behaviors with a longitudinal sample of Chinese families. A positive association between committed compliance and internalization of rules overtime was found in young Chinese children. Moreover, we extended past research by including both maternal respect for autonomy and negative control to investigate their contributions to child social adjustment during the preschool years. Although there was no direct prediction of these two observed maternal parenting behaviors, several interactions with toddlers' committed compliance were predictive of later internalization of rules and externalizing behaviors.

Committed Compliance Predicts Preschool Internalization of Rules and Externalizing Behaviors

First, consistent with findings drawn from children in the Western culture (e.g., Kochanska et al., 2001), we found a positive association between committed compliance and internalization of maternal

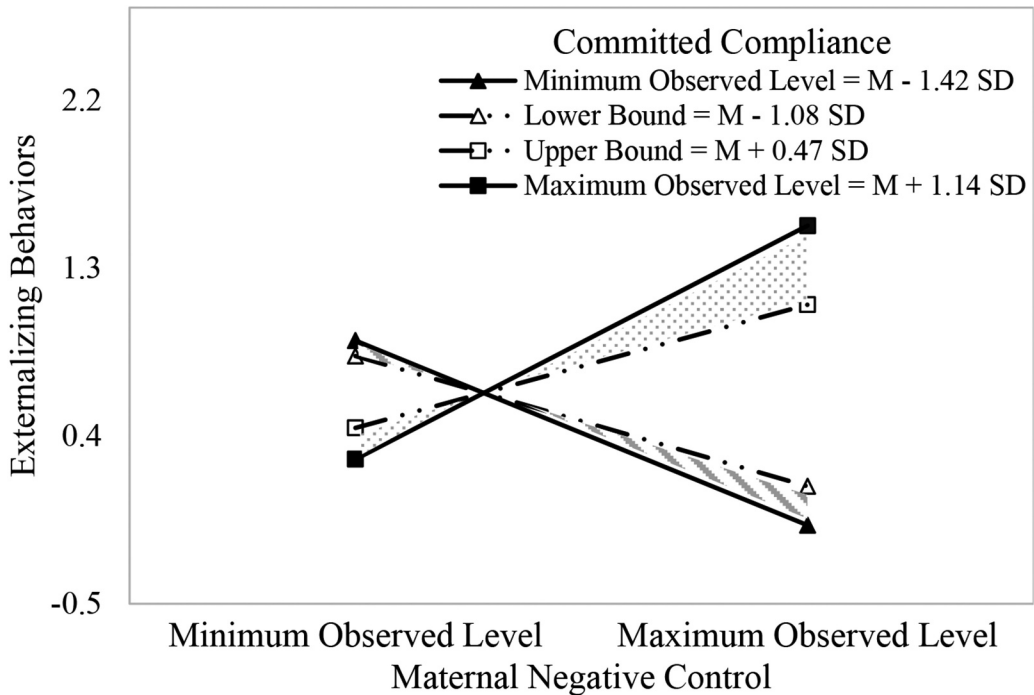


Figure 3. Committed compliance at 25 months moderates the association between maternal negative control in toddlerhood and externalizing behaviors at 60 months. The regions-of-significance analyses are based on the observed ranges of committed compliance at 25 months. The dot-shaded area illustrates the significant region representing a positive association between negative control and externalizing behaviors when committed compliance is relatively high; the stripe-shaded area illustrates the significant region representing a negative association between negative control and externalizing behaviors when committed compliance is relatively low.

rules, partially confirming the continuity from committed compliance in toddlerhood into more internalized, rule-compatible behaviors during the preschool years in Chinese children. As shown in the literature (Kochanska, 2002; Kochanska et al., 2010), this continuity may be facilitated by the emergence of a self-view as a good, moral individual and to some extent, this developmental process is universal across Western and non-Western cultures.

Although we expected that the prediction of toddlerhood committed compliance would extend to internalization of experimenter rules, this relation was not significant. First, it could be that complying with unfamiliar adults (such as experimenters) may take longer to establish. A second possibility is that the cheating game task primarily asks for following *prohibited* rules whereas the internalized cleanup task mainly requires the child to complete *requested* acts. In nature, these tasks tap two different contexts in which children need to acquiesce in standards of conduct (Kochanska et al., 2001) and the constructs measured in such different contexts might be less relevant.

Given that the relation of these two constructs was in the same direction, but just missed significance, we still think that internalization of experimenter rules stems from an early willing stance to embrace rules conveyed by adult authorities (i.e., committed compliance; see Kochanska, 2002). Preschoolers take in standards of conduct conveyed by not only their parents but also other adults in their daily life. This generalizability of internalization is critical for preschoolers to adjust to environments outside their home (e.g., school) and establish social connections beyond their family (e.g., teacher-child relationship). Of course, future research is needed to examine our interpretations, for example, by having the experimenters request the child to clean up toys.

In addition, we found a negative association between committed compliance and later externalizing behaviors, but it is not stable after interaction terms were added. Since externalizing behaviors were

negatively associated with internalization of rules, future studies could consider testing the possibility of a cascading path from an early lack of committed compliance to later externalizing symptoms through insufficient internalization of external rules. Overall, the current results indicate that the continuity of toddlerhood committed compliance to preschool internalization of maternal rules applies to Chinese children.

Committed Compliance Moderates Relations between Maternal Parenting Behaviors and Preschool Internalization of Rules and Externalizing Behaviors

As to maternal parenting behaviors, although Keller (2012) suggested that considerable levels of respect for autonomy and negative control may coexist in Chinese mothers, no direct associations were found from maternal parenting behaviors in predicting internalization of rules and externalizing behaviors. This finding is more consistent with a perspective of the cultural specificity with weaker straightforward relevance of behaviors respect or deny child autonomy to Chinese children's social adjustment due to a remaining lack of cultural endorsement of autonomy (Liu et al., 2009). Those maternal parenting behaviors instead, combining with toddlers' committed compliance, predicted later social adjustment and the directions of which further supported the proposed goodness-of-fit model.

For toddlers with relatively high committed compliance, respect for autonomy was positively related to internalization of maternal rules and negative control was positively related to externalizing behaviors. For children who already have a high tendency to comply with rules (i.e., committed compliance), maternal respect for autonomy could conduce toward more active assimilation and identification with maternal values and rules (Grolnick et al., 1997). Eventually, these children are more likely to follow and take in maternal rules during her absence. In contrast, high levels of maternal negative control might hinder these children's striving for psychological autonomy and self-control, leading to disregard for rules or rejection of socialization and culminating in externalizing behaviors.

For toddlers with relatively low committed compliance, respect for autonomy was negatively related to internalization of maternal rules. This result suggests that respect for autonomy may not provide the assistance necessary for facilitating internalization of rules to these children. Children who seldom comply with requests during toddlerhood may do so because they lack adequate self-control skills to appropriately regulate impulsivity and emotions. Meanwhile, if their mothers use practices such as providing choices or encouraging initiatives without intervening in their noncompliant behaviors, these toddlers may not be able to realize and acquire the importance of following external rules. As a consequence, they are less likely to take in adults' rules during their absence in the later developmental period.

For these children, negative control was positively associated with internalization of experimenter rules and negatively associated with externalizing behaviors. Although inconsistent with the direct prediction found in Western samples (Kochanska et al., 2003), this finding on negative control is compatible with another study focusing on Chinese immigrant preschoolers. Specifically, inhibitory control, the temperamental antecedent of committed compliance, moderated the link between maternal negative control and child prosocial behavior 1 year later (Yu et al., 2018). Only for children low on inhibitory control did negative control positively predict prosocial behavior (Yu et al., 2018). Negatively controlling behaviors (e.g., guilt induction) are frequently used by Chinese mothers to teach children how to conform to cultural norms such as showing respect for parents and other adults (Yu et al., 2018). Such parenting behaviors, as a compensatory mechanism, may be applied only to toddlers low on committed compliance or inhibitory control because they need those corrections as the first step to explicitly set limits for their behaviors even though such parenting behavior may thwart child autonomy (Yu et al., 2018).

Inconsistent with Bates et al. (1998), we found that if mothers used more negative control, children with low committed compliance displayed fewer externalizing behaviors. Relating to the above interpretation, maternal interventions and strict control are used to correct children's misbehaviors

and make them realize the consequences of wrongdoing, thus preventing later more severe externalizing behaviors. But this compensatory process works only for children who are prone to defy owing to their limited early self-control (Kochanska et al., 2013). To sum up, negative control could, to some extent, assist young Chinese children with low committed compliance adjust well by exerting necessary control on those children. Respect for autonomy may not be ideally nurturing for them in toddlerhood because they are not yet developmentally prepared for such scaffolding.

In summary, the aforementioned directions of predictions are in line with the pattern of both the good fit and the poor fit (Kiff et al., 2011), further suggesting a contrastive effect on maternal respect for autonomy or negative control in predicting child social adjustment (Leerkes et al., 2009). That is, toddlers with a high level of committed compliance thrive under mothers who respect their autonomy and have lower negative control, whereas toddlers with a low level of committed compliance do poorly under high levels of respect for autonomy who instead benefit from negative control.

Our findings, therefore, extended the literature in regard to the processes through which parenting behaviors that respect or deny autonomy exert their influences on Chinese children's social adjustment during early childhood. Our study points to the importance of understanding the developmental relevance of these maternal behaviors in Chinese families from a parenting-by-child characteristics perspective. Moreover, as far as we know, this is the first study to probe the moderation role of committed compliance. Thus, our findings support the premise that individual differences in reactions to maternal parenting behaviors are dependent on varying tendencies to comply with rules (Grusec et al., 2017) and extend the literature on the developmental relevance of compliant behaviors.

Future Research

Given the current findings, there are some future directions. First, our results on toddlers with low committed compliance, together with preschoolers low on inhibitory control in the Yu et al. (2018) study indicates that negative control is not universally detrimental to psychological development. The future cross-cultural investigation is needed to confirm if this finding would be shown only in Chinese culture or other cultures where negatively controlling behaviors are traditionally used as an approach to teaching young children to conform to standards of conduct. Second, parenting behaviors coded from the free-play task do not directly relate to child social adjustment (see also Liu et al., 2009). This may be because respect for autonomy and negative control in varied contexts (e.g., the interference context versus the free-play context) are differentially associated with child outcomes and those behaviors coded from free-plays may only indicate attenuated developmental relevance (Matte-Gagné et al., 2015). Future studies are needed that use diverse contexts to measure and reveal the “contextual specificity” of these two maternal parenting behaviors.

Limitations

This study had limitations. First, a bidirectional association between parenting behaviors and internalization of rules or externalizing behaviors might also occur but we did not have an earlier measurement of social adjustment or a later measurement of maternal behaviors to clarify this possibility. Future research could examine whether toddlerhood rudimentary internalization and externalizing symptoms predict preschool maternal parenting behaviors. For example, higher internalization of rules would be related to maternal responses including higher respect for autonomy and lower negative control, whereas for toddlers high on externalizing behaviors, higher maternal negative control and lower respect for autonomy would be expected. Second, our sample was relatively small and mainly from the highly educated urban population in China. A more representative sample from diverse socioeconomic backgrounds would help to generalize our findings to other groups.

Conclusion and Implications

The present study adds to the literature by confirming the developmental continuity from committed compliance to internalization of rules in Chinese children. This study also reveals that children with high committed compliance benefit from maternal respect for autonomy while children with low committed compliance benefit from maternal negative control. Thus, the findings shine a light on the unfolding developmental processes of internalization of rules and externalizing behaviors through the complex person-by-environment interactions.

Our study has at least two implications. First, since the literature is markedly inconsistent regarding what moderation roles child self-control may play in modifying links between parenting and child outcomes (Slagt et al., 2016), our findings imply that a goodness-of-fit model could be a theoretical perspective with potential to bespeak such roles. Second, our findings imply that the effectiveness of socializations in changing child social adjustment may depend on the extent to which a child develops sufficient self-control skills. To stimulate the maximum effectiveness of parenting interventions, parents need to acquire how to adjust their levels of respect for autonomy and negative control to match with a child's level of committed compliance. Specifically, for children whose committed compliance is still below the average level, their parents should be taught how to use controlling behaviors to help them establish the first endorsement of complying with rules, while for children whose committed compliance is above the average level, interventions should aim at teaching parents how to uphold and reinforce their child's autonomous motivation to more fully take in standards of conduct.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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