

Parent Physical Punishment and Child Aggression in a Singapore Chinese Preschool Sample

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We examine how parental physical punishment (caning and slapping) and child aggression are related, and possible moderation by authoritative control and rejection. A sample of 286 Singapore Chinese preschoolers ages 4-6 reported on rejection; their parents reported on control, caning, and slapping; and their teachers rated child aggression. Results show that father caning is related to aggression, regardless of child gender, whereas mother caning is related to child aggression only at low rejection. Mother slapping is related to sons' aggression, whereas father slapping is related to daughters' aggression only at low rejection. Control does not moderate any of the punishment-aggression links. The punishment-aggression link is thus a complex one, dependent on the dyad, the punitive act, and the parent's behavior.

Key Words: aggression, Chinese, control, punishment, rejection, Singapore.

In a recent article in *Psychological Bulletin*, Gershoff (2002a) reported the results of her meta-analytic review of parental corporal punishment and associated child characteristics such as aggression. Gershoff adopted Straus's (1994) definition of corporal punishment as "the use of physical force with the intention of causing a child to experience pain but not injury for the purposes of correction or control of the child's behavior" (p. 4), a definition that is synonymous with physical punishment and includes acts such as spanking (typically striking the buttocks or extremities with an open hand; e.g., Baumrind, 1997), slapping (typically a strike on the cheeks with an open hand), and hitting with an object (usually on the buttocks or hands; called caning in some cultures). Of the 11 meta-analyses Gershoff conducted, 10 showed physical punishment to be related to undesired characteristics, including increased child aggression.

Despite such convincing results, Gershoff (2002a) cautioned against overly simplistic conclusions. Rather, she called for more elaborate research on potential moderators of the link between physical punishment and child characteristics, a call echoed by the scholars invited to comment on her review (Baumrind, Larzelere, & Cowan, 2002; Holden, 2002; Parke, 2002a). She proposed a process-context model (Gershoff, 2002a, 2002b) wherein she identified several possible moderators. We conducted the present study to examine two potential moderators of the relation between parental physical punishment and child aggression: namely, authoritative parental control and perceived parental rejection. We chose child aggression as the characteristic of interest because of the substantial pool of literature indicating a robust positive relationship between physical punishment and aggression (see Gershoff, 2002a). Indeed, all 27 studies involving child aggression in Gershoff's (2002a) review showed the same direction of association, whereby

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punishment was related to increased aggression (with a medium effect size). Moreover, childhood aggression has been found to predict subsequent antisocial behavior (Coie & Dodge, 1998).

In line with Gershoff's (2002a, 2002b) suggestions and the invited commentaries, the two moderators we examined are authoritative parental control (cf. Baumrind et al., 2002) and perceived parental rejection (see Holden, 2002). Rather than looking at authoritativeness as an overall parenting style characterized both by high demandingness and high responsiveness (Maccoby & Martin, 1983), we focused on the demandingness or control dimension of such parenting because it is often with regard to control issues that the need for disciplinary actions arises. Moreover, our study used a Chinese sample because control issues are particularly salient in Chinese parenting (Chao & Tseng, 2002). Authoritative control in Chinese parenting, similar to what Chao (1994) called *guan*, involves the "use of reason as well as power" to attain parental objectives (Baumrind, 1968, p. 261). It thus marries warmth and involvement with control and governance (see also Chao & Tseng). The child is not only provided with clear behavior expectations, but also with the rationale for such expectations. Such clarity of communication has been found to enhance parents' effectiveness as disciplinarians (Grusec & Goodnow, 1994). Further, authoritative control leaves room for negotiation because it is sensitive to the child's developmental status. Taken as a whole, such control creates an environment where the child feels valued as a person. Punishment in such an environment may thus be just a temporary aberration, with little or no significant consequence (see also McLoyd & Smith, 2002). Punishment coupled with unclear behavior expectations and a lack of warmth and involvement, as in a less authoritative context, may leave the child confused as to the reason for the punishment. The child may then emulate the parent's aggression (Bandura, Ross, & Ross, 1963) or externalize the sense of frustration in the form of aggression (Berkowitz, 1989). Thus, at lower as compared with higher levels of authoritative control, the positive relation between punishment and aggression can be expected to be stronger. Such results have been found for a Taiwanese sample of adolescents (Simons, Wu, Lin, Gordon, & Conger, 2000).

Perceived parental rejection, in contrast, focuses on the child's sense that parents dislike, disapprove of, and resent the child (Rohner, 1990). For such a rejected child, punishment may serve to reinforce or validate that perception of rejection and increase the likelihood of the child acting out (Rohner & Britner, 2002). Conversely, a perception that the parent is not rejecting, even though using physical punishment, may help buffer any ill effects of such punishment. A stronger positive relation between punishment and aggression can thus be expected at higher as compared with lower levels of parental rejection.

Studies examining the link between physical punishment and child aggression typically look at European American or White children. When ethnicity is considered, however, there are indications that this link differs for different ethnic groups. Deater-Deckard, Dodge, Bates, and Pettit (1996), for instance, explicitly incorporated the ethnicity factor and found a positive relation between punishment and aggression for European American children but not for African American children. Similarly, spanking has been reported as related to more aggression in White children but less aggression in Black children (Gunnoe & Mariner, 1997). Simons et al. (2000) suggested that these different linkages arise because of differences in the extent that children in the two groups view physical punishment as a legitimate form of discipline (see also Gershoff, 2002a).

To further explore such ethnicity considerations, we conducted our study with a Singapore Chinese sample, which allowed three major advantages. First, as Parke (2002a) indicated, the effects of physical punishment may depend on how widely accepted such punishment is. In this regard, Singapore provides a useful societal framework for our study in that physical punishment

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here is generally acceptable (Elliott, Thomas, Chan, & Chow, 2000). Although there are laws against child abuse, the law of the land provides for the use of physical punishment (specifically, caning) for punitive and deterrent purposes. Second, there has been increased interest in looking at Chinese parenting in societies beyond the migrant Chinese in the West and East Asian Chinese (e.g., Chao & Tseng, 2002). Singapore provides an interesting case here. Unlike typical Chinese societies (e.g., China, Hong Kong, Taiwan) where homogeneity is the norm, Singapore is a multiethnic society even though the Chinese do form the majority in the population (77%; Leow, 2001). Very little is known about parenting, let alone Chinese parenting, in such a context (Chao & Tseng). Third, the Chinese typically emphasize and adopt stricter parenting practices to achieve the culturally valued goal of child obedience (Chao, 1994; Chiu, 1987; Lin & Fu, 1990). Not surprisingly, Chinese parents use more physical punishment, even during adolescence (Simons et al., 2000).

Besides ethnicity considerations, we also explored the possibility that different types of physical punishment may show different linkages with aggression. Studies examining physical punishment (e.g., Deater-Deckard et al., 1996; Simons et al., 2000) have treated it as a single category and paid little attention to its different manifestations. It is likely, however, that different types of physical punishment have different effects. For instance, even though caning and slapping are both forms of physical punishment, the former typically involves the use of an object (called a cane) on the buttocks or hands, whereas the latter is typically administered on the cheeks with an open hand. Although there may be debate about which punishment type is more serious (see, for example, Gershoff, 2002b), in Singapore, "caning is mostly viewed as an acceptable notion (but sometimes may not be), while slapping on the face is mostly unacceptable (but sometimes may be)" (Elliott et al., 2000, p. 27). Therefore, in our study, we set out to examine separately the linkages related to caning and slapping, two of the more common physical punishment types among the Chinese in Singapore.

Does it matter whether the mother or father uses these punishment types? Reviews (e.g., Collins & Russell, 1991; Parke, 2002b) have advocated distinguishing between mothers and fathers, even when the same parenting practice is being considered. Results that have incorporated parent gender have not always been consistent; for example, Rothbaum and Weisz's (1994) meta-analysis found a stronger effect for mothers than fathers, whereas Loeber and Stouthamer-Loeber's (1986) review found the opposite effect. Mothers and fathers in Chinese societies typically play traditional roles as caregivers and disciplinarians, respectively (Chao, 1994; Lau, Lew, Hau, Cheung, & Berndt, 1990). Even in relatively modern Singapore, such role differentiations between mothers and fathers still apply (Quah, 1999). Where discipline is the defining role for one parent, there is arguably a greater need to distinguish between mothers and fathers when it comes to physical punishment. Further, other studies (e.g., Siegal & Barclay, 1985; Siegal & Cowen, 1984) have suggested that children distinguish between mothers and fathers when it comes to physical punishment, with such punishment seen as more acceptable when used by fathers.

A closely related question is whether punishment dynamics, differentiated by mothers and fathers, apply similarly or differently to aggression in daughters and sons. Some evidence points to gender-specific dynamics. For instance, fathers seem to differentiate more between daughters and sons (Lytton & Romney, 1991), such that father effects are stronger or weaker depending on whether the child is a girl or a boy (e.g., Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998). Similarly, the same-gender modeling hypothesis (Deater-Deckard & Dodge, 1997) that children are more likely to be affected when punished by the parent of the same gender also implicates different dynamics for daughters and sons.

Many of the studies incorporating child gender have examined whether and how specific linkages differ across different parent-child dyads; indeed, the same-gender modeling hypothesis arose from comparing punishment-aggression relations for same-gender and different-gender parent-child dyads. Much less explored is the possibility that the mechanisms at work in various parent-child links may differ depending on child gender. A recent study by Chang, Schwartz, Dodge, and McBride-Chang (2003) looked at such a possibility, examining whether a mediation model linking harsh parenting and child aggression differed for daughters and sons. Their results showed dyad-specific patterns; for instance, fathers' harsh parenting was more strongly related to sons' aggression than daughters', whereas mothers' harsh parenting was not related to child aggression. For the model as a whole, however, the paths in the model were similar regardless of child gender. Thus, although the mediation mechanisms were the same for daughters and sons, the strength of the paths in mediation differed depending on the parent-child dyad considered. To build on Chang et al.'s work, we incorporated child gender into our moderator analysis to explore both the possibility that particular linkages may differ in strength depending on the specific parent-child dyad, and the possibility that our proposed moderation models may differ for daughters and sons.

We also sought to overcome two methodological shortcomings raised by Baumrind et al. (2002). First, many studies on punishment are susceptible to the problem of shared method variance, with parents serving as the source of data for both their own punishment and their child's characteristics. Second, in advocating the use of multiple sources of data (e.g., parent-reported punishment and teacher-reported aggression), they also indicate the need to take into account the different contexts in which a child characteristic such as aggression may express itself, even if punishment is administered mostly at home. Because punishment seeks to internalize positive conduct (Holden, Miller, & Harris, 1999), it may actually be more useful to examine how internalization has been generalized to a setting (e.g., school) different from where the punishment occurs (home). We therefore sought to obtain different sources of data across home and school settings.

In sum, our aim in the present study was to examine the link between parental physical punishment and child aggression, distinguishing two types of physical punishment (caning and slapping) and four parent-child dyads. We predicted that caning and slapping would show different patterns of linkages with aggression for the four dyads (Hypothesis 1). For moderation, we had two predictions. The first prediction was that parental authoritative control moderated the link between punishment and aggression (Hypothesis 2), such that as such control increased, the punishment-aggression link would be weaker. The second prediction was that perceived parental rejection moderated the punishment-aggression link (Hypothesis 3), such that this link would be stronger as rejection increased. We also sought to explore whether these moderating linkages would differ for daughters and sons.

METHOD

Participants

The primary sample consisted of 286 Chinese preschoolers recruited from 11 preschool institutions in Singapore. Preschool children in Singapore are typically between 4 and 6 years of age, an age range when parents tend to view physical punishment as appropriate and to use more severe forms of punishment such as caning and slapping (see Gershoff, 2002a). Of these 286 children, there were 70 four-year-olds (24%), 119 five-year-olds (42%), and 97 six-year-olds

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(34%), with equal numbers (143) of girls and boys. Almost half (49%) of the children were first-born, 31% were second-born, and the rest were third-, fourth-, or fifth-born.

For 123 of the 286 children (43%), both parents also took part in the study. Another 120 mothers (42%) and 43 fathers (15%) also participated, but their respective partners declined. The age range for mothers was 21-47 years ($M = 35.90$), and for fathers was 21-53 years ($M = 39.36$). A majority of the mothers (61%) and almost half of the fathers (47%) had secondary education (equivalent to grades 7-10). A small number of mothers (12%) and fathers (14%) had primary education (up to grade 6); 17% of mothers and 25% of fathers had tertiary education (above grade 10). This distribution of educational qualifications follows fairly closely that of the Singapore population (Leow, 2001). We compared those families in which only one parent participated with those in which both parents took part, and found no difference between them on mother age, father age, or number of children. The educational profile was also similar for the two groups.

In addition, 35 teachers from the preschool institutions provided ratings on the children in the primary sample. These teachers were very familiar with the children, having spent at least 4 hours per weekday for many weeks with the children.

Procedure

We sought the help of the preschool institutions for access to both the children and their parents, and to provide the teacher ratings. Through the preschools, we provided parents of all of the preschool children (1,000 in total) with a brief description of the study and asked for their written consent to allow their child to participate. We also gave each set of parents two packets (one for mother, one for father) containing the parent measures. Parents who were willing completed their respective packets and returned them through the preschool. To reduce the likelihood that one parent might complete the measures for the other, we deliberately separated the packets for fathers and mothers and provided separate instructions in each packet.

This indirect approach to parental participation has its disadvantages. First, many parents did not participate, yielding a rather low response rate of around 30%. Second, accessing parents through the preschools also meant that we were unable to gather information about those parents who did not take part in the study. Thus, our sample may be a relatively select one, although the educational profile of the parents who did participate follows that in the general population.

We chose this indirect approach to parental participation because it provided us with two advantages that would otherwise be difficult to achieve. First, we wanted to facilitate as much as possible the participation of fathers, who are traditionally family disciplinarians. Second, we wanted to reduce social desirability, which is likely in any study on punishment, but especially so when personal contact is required. By accessing parents through the preschools, we also hoped for a sense of formality such that parents would be more likely to respond and to respond honestly.

For parents who did participate, consent forms for their child's participation and their own completed packets were collected through the preschools. Each child was then interviewed on a one-to-one basis on the preschool premises. Upon the preschools' request, a female research assistant was present during each interview, which was conducted by a male researcher. Teachers were then asked to complete the teacher ratings for the children under their charge.

Measures

Physical punishment. Discipline and physical punishment are sensitive and personal issues for many people. Thus, instead of directly asking mothers and fathers how often they punished their child for doing something wrong, as in the widely used Conflicts Tactics Scale (Straus, 1990), we used a self-report measure of physical punishment designed to minimize parents taking offense or underreporting, and incorporating the view that punishment is a means of cultivating socially acceptable or desired attributes in the child (Straus, 1994). Thus, we presented statements depicting a hypothetical child misbehaving in certain ways, similar to the vignette instrument in Deater-Deckard et al. (1996), and asked mothers and fathers to rate how likely they would use caning and slapping if they were the parent of that child.

To reduce bias, only those behavioral domains in which parental authority is recognized as legitimate, even as late as adolescence (e.g., Smetana, 1988, 2000), were included. Consistent with Smetana's (2000) framework, our statements included (a) moral behaviors that affect the rights or welfare of others (e.g., being aggressive toward others, not being concerned about the welfare of others), (b) conventional behaviors that contravene socially agreed norms (e.g., being disrespectful to authority, not being courteous and considerate), and (c) prudential behaviors that affect the safety of the self (e.g., persisting in potentially self-injurious activities).

In all, mothers and fathers rated nine statements, such as "the child is aggressive toward others," "the child is disrespectful to authority," and "even after being told not to do so, the child still engages in activities that lead to self-harm." To provide a common frame of reference for parents to report their likelihood of caning and slapping, we gave two example situations to accompany each statement. For instance, for the statement "the child is aggressive toward others," we gave the example situations of (a) pushing or hitting classmates or siblings during play, and (b) biting someone when that someone refuses to pass a toy. For the "child is disrespectful to authority" statement, the example situations were (a) being rude to a teacher, and (b) making nasty remarks about a grandparent.

Responses to each statement were made on a 4-point scale (1 = almost never, 4 = almost always) for each of the two acts of punishment. A Chinese version of this punishment measure was developed for Chinese-speaking parents, with back-translation to ensure comparability with the English version. Cronbach's alphas for mother caning were .86 for daughters and .87 for sons, and .94 (daughters) and .93 (sons) for mother slapping. For father punishment, Cronbach's alphas were .88 (daughters) and .83 (sons) for caning, and .94 (daughters) and .92 (sons) for slapping.

Authoritative control. Mother and father authoritative control was measured using an adapted version of the authoritativeness subscale in the Parental Authority Questionnaire (Buri, 1991). This instrument was originally developed with the child as the source of the report. For our study, however, we wanted mothers and fathers to report on their own parenting so that we could situate their punishment inclinations within the context of their authoritative control. Keeping to the substantive content of the original items, we reworded the 10 items to fit the parents' point of view. The present measure assessed various aspects of authoritative control, such as providing rationale for decisions (e.g., "Once family policy has been established, I discuss the reasoning behind the policy with my child"), negotiation (e.g., "I always encourage verbal give-and-take whenever my child feels that family rules and restrictions are unreasonable"), decision-making authority (e.g., "Even though I take my child's opinion into consideration when making family decisions, I will not decide for something simply because my child wants it"), sensitivity to child

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status (e.g., "Even though I have clear standards of behavior for my child in our home, I am willing to adjust those standards to the needs of my child"), and warmth (e.g., "I am understanding toward my child even if he/she disagrees with my direction for his/her behavior").

Parents responded to the 10 items on a 5-point scale (1 = strongly disagree, 5 = strongly agree), with higher scores indicating greater control. There was again a Chinese version of this measure. Cronbach's alphas for mother control were .74 for daughters and .77 for sons; for father control, they were .80 for daughters and .74 for sons.

Perceived parental rejection. Perception of rejection by parents was assessed by a series of statements adapted from the child version of the Parental Acceptance-Rejection Questionnaire (Rohner, 1990). Because Rohner's questionnaire was developed for children at least 7 years of age, we made several modifications for our younger children. First, in view of limited attention span and understanding and the fact that each child had to report for both mother and father, we reduced the number of statements from the 60 in Rohner's measure to 20 for our study. These 20 items were chosen primarily because they could easily be understood by the children in our age range. Second, as recommended by teachers to minimize confusion for the child, we adopted a 3-point response scale (1 = never, 2 = sometimes, 3 = always) instead of the original 4-point scale. Third, given the children's limited reading ability, we used a one-to-one structured interview approach for each child in a language with which the child was most comfortable (English or Chinese), rather than administering the measure as a self-report questionnaire. This one-to-one interview approach also enabled us to ensure, through verbal and nonverbal cues, that the children understood the statements.

Because some statements in the rejection measure are personal and sensitive (e.g., "My mother/father does not really love me"), we conducted the interview in the form of a game so that the children would feel more comfortable and less inhibited in responding. For those who were still shy or nervous, we provided toys that they could use to indicate their responses (by placing the toy on one of three cards labeled never, sometimes, and always). Because each child had to rate both parents, we counterbalanced the order that mothers and fathers were rated. Responses were coded such that higher scores indicated greater rejection. Cronbach's alphas for mother rejection were .81 for both daughters and sons; for father rejection, they were .74 for daughters and .76 for sons.

Child aggression. The 12 items assessing child aggression were adapted and expanded from Dodge and Coie's (1987) measure of teacher-rated child aggression. They covered various acts of aggression, including physical aggression that could be provocative (e.g., starting a fight with classmates) or reactive (e.g., striking back when teased), and verbal aggression that could be provocative (e.g., teasing and name-calling) or reactive (e.g., blaming others in fights). Bullying behaviors (e.g., getting others to gang up on a classmate, threatening others) were also included. Teachers rated each child on each aggressive behavior using a 5-point scale (1 = never, 5 = almost always), with higher scores indicating greater aggression. Cronbach's alphas were .96 for the girls and .97 for the boys.

RESULTS

Preliminary Analyses

We first examined possible differences on the variables of interest between families in which only one parent took part and those in which both parents participated. A series of t tests showed that mothers from the two family types did not differ in caning, slapping, control, and rejection. Fathers from the two family types also did not differ on those variables. Importantly, children in the two family types did not differ on aggression.

Table 1 presents the correlations and descriptive statistics for the variables in the study. Mothers were more likely to cane than to slap both daughters, $t(125) = 10.45$, $p < .001$, and sons, $t(116) = 10.28$, $p < .001$. Fathers were similarly inclined; $t(74) = 8.23$, $p < .001$, for daughters, and $t(89) = 9.68$, $p < .001$, for sons. Two child gender differences also emerged: Mother caning was more likely for sons than daughters, $t(241) = 2.10$, $p < .05$, and father rejection was higher for sons than daughters, $t(164) = 2.30$, $p < .05$. As with past research, boys were more aggressive than girls, $t(284) = 3.37$, $p < .01$.

Caning and Slapping

As seen in Table 1, regardless of parent, caning and slapping were positively correlated for both daughters and sons. Mother caning and mother slapping were more strongly related for daughters ($r = .57$) than for sons ($r = .34$), however, and also compared with the relation between father caning and father slapping for daughters ($r = .33$) and sons ($r = .36$). Father but not mother caning was related to aggression in daughters ($r = .29$) and sons ($r = .22$). Both mother ($r = .21$) and father ($r = .26$) slapping were related to aggression in sons, but not to aggression in daughters. These bivariate correlations point to dyad-specific patterns of relations for caning and slapping with aggression.

Moderators of the Punishment-Aggression Link

Because mother-child and father-child dynamics are different (e.g., Collins & Russell, 1991), we conducted separate moderator analyses for mothers and fathers. Caning and slapping were also separated because these two punishment types had differing relations with aggression depending on who punished (mother or father) and who was being punished (daughter or son).

We used the Baron and Kenny (1986) regression approach to testing moderation, where moderation is said to exist when there is an interaction between the predictor of interest and the proposed moderator. For each proposed moderator (e.g., authoritative control), we first regressed child aggression on child gender (dummy-coded; 0 = female, 1 = male), a parent's punitive act (e.g., mother caning), and the proposed moderator for that parent (i.e., mother control). The two-way interactions (between caning and gender, between control and gender, and between caning and control) were entered next, followed finally by the three-way (caning by control by gender) interaction. To minimize problems associated with multicollinearity, we used centered values (except for aggression) for all of the regressions (Aiken & West, 1991). We followed Pedhazur's (1997) recommendation to set the Type I error rate at .10 for the interactions to minimize Type II error.

Results from the regression analyses with authoritative control and perceived rejection as potential moderators are shown in Tables 2 and 3, respectively. As seen in Table 2, there were no interactions involving authoritative control. Indeed, there were no effects involving control. Hypothesis 2 that parental authoritative control moderated the link between punishment and aggression was thus disconfirmed. There was an interaction involving mother slapping and child

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gender, however. Follow-up analyses showed a link between mother slapping and sons' aggression, $b = .37$, $t(115) = 2.30$, $p < .05$, but not daughters', $b = .01$, $t(124) = .09$, ns. There was also a direct link between father caning and child aggression, $b = .39$, $t(157) = 2.18$, $p < .05$.

Although there was no moderation involving control, two moderating linkages involving rejection were found (see Table 3). One was the three-way interaction involving father slapping, father rejection, and child gender, which subsumed the father slapping by father rejection and the father slapping by child gender interactions, which were also present. To follow up on this three-way interaction, we examined the interplay of father slapping and rejection separately for each child gender. For sons, slapping, $b = .41$, $t(86) = 2.47$, $p < .05$, and rejection, $b = .59$, $t(86) = 3.42$, $p < .01$, were both linked to aggression, but there was no interaction involving slapping and rejection. For daughters, however, rejection moderated the link between slapping and aggression, $b = -.07$, $t(72) = -2.68$, $p < .01$. Using the Aiken and West (1991) procedures for probing such interactions, we performed simple regressions at three levels of rejection—low (one SD below M), moderate (at the M), and high (one SD above)—to elucidate this moderating effect. Figure 1 depicts the results from these simple regressions, which showed a slapping-aggression link when rejection was low, $b = .41$, $t(72) = 2.05$, $p < .05$, but no link when rejection was moderate, $b = .02$, $t(72) = .15$, ns, or high, $b = -.36$, $t(72) = -1.65$, ns.

The other was the two-way interaction involving mother caning and mother rejection (see Table 3). Following the Aiken and West (1991) approach, caning was linked to child aggression when rejection was low, $b = .31$, $t(239) = 2.45$, $p < .05$, but not when rejection was moderate, $b = -.05$, $t(235) = -.31$, ns, or high, $b = -.11$, $t(239) = -.66$, ns. These results are depicted in Figure 2.

Although mother and father rejection did moderate specific punishment-aggression links, the links did not strengthen with increasing rejection as postulated in Hypothesis 3. Rather, the link, which was positive at low rejection, was no longer present at moderate or high rejection. In addition to these two moderating effects, the interaction between mother slapping and child gender found in the previous control analyses was replicated here, as was the direct link for father caning (see Table 3). Unlike control, which had no direct links with child aggression, however, both mother and father rejection had direct and positive links (see Table 3), although some of these links are subsumed within the moderation dynamics.

DISCUSSION

We conducted the present study to examine how the relationship between parent physical punishment (specifically, caning and slapping) and child aggression may be moderated by parent authoritative control and perceived parental rejection. In addition to distinguishing the two types of physical punishment, we used a Singapore Chinese sample to incorporate considerations of culture and ethnicity, and we set out to explore potential parent-child dyad specificities.

Our results indicate that although caning and slapping are forms of physical punishment, they are distinct acts that may have differential effects on, or at least are differentially related to, child aggression. At both bivariate and multivariate levels, there were different relations between each punishment type and aggression, dependent on the specific parent-child dyad being considered. Specifically, father caning was directly linked to child aggression, whereas mother caning was linked only when she was low in rejection. Mother slapping was linked to sons' but not daughters' aggression, but father slapping was linked to daughters' but not sons' aggression only when he was low on rejection. Notably, all links were positive when they existed (cf. Gershoff, 2002a).

Given that children tend to view physical punishment as more acceptable when used by fathers (e.g., Siegal & Barclay, 1985; Siegal & Cowen, 1984), the present results suggest that the acceptability of a practice does not necessarily imply the absence of a link with aggression. Our results further demonstrate that the punishment-aggression link is not simplistic, needing at least to consider parent gender, child gender, and parenting behaviors such as rejection. There is also a need to distinguish punishment types (e.g., caning vs. slapping) instead of combining them into a single physical punishment category (see also Locke & Prinz, 2002). Our results also showed a lower likelihood of adopting slapping as opposed to caning across all four parent-child dyads (see Table 1), suggesting that Singapore Chinese parents, similar to parents in Western societies (see Gershoff, 2002b), probably regard slapping as a more negative or severe punishment type than caning.

On our exploration of moderation, perceived rejection but not authoritative control was found to play a moderating role, moderating two of the punishment-aggression linkages. We adopted a cross-context approach for the present study, however. Thus, instead of locating punishment and aggression in one setting, we asked parents to report punishment (most likely occurring in the home), whereas teachers reported child aggression at school. This cross-context approach allowed the elimination of the shared method variance problem, but may also have made it more difficult for moderating effects to emerge because any aggression that is linked to punishment would have to be fairly generalized and transcend the two settings. Nonetheless, examining such cross-context aggression may provide us a useful picture of the effects of punishment (Baumrind et al., 2002).

The lack of moderating effects for authoritative control—in fact, the lack of any effects involving control—is surprising given the established theoretical foundations on which it is based (e.g., Baumrind et al., 2002), and evidence from other studies with Chinese samples (e.g., Simons et al., 2000). A possible explanation for our seemingly discrepant finding relates to how we assessed control. We asked parents to report on their own control because we wanted punishment inclinations to be situated within such self-perceived control. Doing so may have inadvertently provided us a picture of control from parents' point of view, but one that is not shared by the children. Because preschool children are likely to have a "relatively unique perspective on parenting" (Sessa, Avenevoli, Steinberg, & Morris, 2001, p. 63), the lack of findings for control as reported by parents, but findings for rejection reported by the child suggest that what matters more is parenting from the child's perspective. It could well be that control does moderate the punishment-aggression link if such control is perceived by the child (e.g., Simons et al., 2000). From this viewpoint, our findings would indicate that control, as reported by parents, does not play a role in the punishment-aggression link.

For the two moderations involving rejection, interaction effects revealed child gender differences in the interplay of father slapping and father rejection. Specifically, rejection moderated the link between slapping and aggression for daughters, such that there was a link only when rejection on the part of the father was low. Slapping and rejection did not interact for sons, however. Rather, each had direct links with aggression. The other moderating effect involving rejection was the mother caning by mother rejection interaction. Here, there was a link between caning and aggression, regardless of child gender, but only when the mother was low in rejection. Although we had predicted that greater rejection would be associated with a stronger punishment-aggression link, we found positive relations for mother caning and father slapping at low rejection, but no relations at moderate or high rejection. This pattern of results suggests that when parents are perceived as less rejecting, learning or modeling processes (e.g., Bandura et al., 1963) may

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actually come into play when parents use physically punitive acts (cf. Gunnoe & Mariner, 1997). This is a possibility that future studies can explore.

Given that rejection is closely associated with emotional support, our moderation results contrast with McLoyd and Smith's (2002) finding of a relation between spanking and behavior problems when emotional support was low, but not when support was high. It should be noted that McLoyd and Smith examined only mother spanking and controlled for gender. In addition, their category of behavior problems encompassed different forms of problem behaviors and not just aggression (see also Simons et al., 2000). As a point for further research, however, McLoyd and Smith's results on spanking and our results on caning and slapping implicate different mechanisms depending on the type of physical punishment examined (see also Gunnoe & Mariner, 1997).

The results involving rejection affirm the moderating role of rejection and support the argument (e.g., Khaleque & Rohner, 2002) that parental acceptance-rejection is a most crucial parenting dimension. The dynamics of moderation are complex, however, integrating particular parent-child dyads with particular punitive acts. Both mother and father rejection moderated, but mother rejection moderated only for caning, whereas father rejection moderated only for slapping. Father rejection moderated only for daughters, whereas the moderating role of mother rejection did not depend on child gender. Similarly complex findings have been reported previously (Grusec & Goodnow, 1994), although these were subsequently incorporated into a conceptualization of discipline that involves accurate perception of parent's message and child's willingness to accept that message.

One highlight of the moderation findings is the role of child gender. As previously mentioned, the interplay of father slapping and father rejection was dependent on child gender, with a model of moderating effects applying to daughters and one of direct effects applying to sons. In addition, the effect of mother slapping was dependent on child gender, such that there was a slapping-aggression link for sons but not daughters. These patterns, differentiated by child gender, point to different dynamics at play even when the same punitive act is administered (cf. Lytton & Romney, 1991), although who administers the punishment also matters (cf. Collins & Russell, 1991). More pertinent, unlike Chang et al. (2003), this pattern of results indicates that there are gender differences not only in path strengths (the mother slapping by child gender interaction), but also in model mechanisms (the father slapping by father rejection by child gender interaction). From the perspective of the different punitive acts, it is noteworthy that the caning effects (even when moderated by rejection) are not gender specific, whereas the slapping effects (whether direct or moderated) are gender specific.

Our results provide very little support for the same-gender modeling hypothesis (Deater-Deckard & Dodge, 1997), whereby the punishment-aggression link is stronger for same-gender parent-child dyads (see also Rowe, 1997). On a whole, our results point more toward cross-gender dynamics, with mother slapping linked only to sons' aggression and father slapping (moderated by rejection) linked only to daughters' aggression. Interestingly, punishment by both mothers and fathers had links (direct or moderated) with aggression, even though fathers are traditionally the disciplinarians in Chinese societies (Chao, 1994; Lau et al., 1990; Quah, 1999). This finding concurs with those of other studies that have examined physical punishment by Chinese parents, indicating that punishment associates are (a) not only confined to fathers, critical as they are for child development (Grolnick & Farkas, 2002; Parke, 2002b), and (b) often moderated by other parenting practices (e.g., Simons et al., 2000). Thus, for our Singapore Chinese parents, as with their Western counterparts and those in more homogeneous Chinese societies such as Taiwan (Simons et al.), the effects of physical punishment depend on the broader socialization context

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(Parke, 2002a). Notably, however, father caning had a direct link with child aggression regardless of gender, even after some of these socialization practices had been considered.

Several limitations of our study should be noted. First, we relied on parents' self-reports, which we thought would facilitate greater participation by fathers (Goodnow & Collins, 1990). Our self-report approach also provides opportunities for biases, however. One obvious bias is a parent completing the questionnaire on behalf of the other, although we tried to minimize this by distributing parent-specific packets of questionnaires. Bias may also arise if parents discussed the items in the questionnaires before completing them. Over half of our children had only one parent participate, however, providing some confidence that the parent self-reports were completed independently.

Second, we acknowledge that our response rate is rather low and that we do not have information to compare our sample parents with those who did not take part. There is some confidence that our parent sample is not a select one for two reasons, however. First, our sample's educational profile resembled that in the population. This is helpful because socioeconomic status-educational qualification being a common indicator-relates to the use of physical punishment (Deater-Deckard et al., 1996). Second, although there was a lower likelihood of mothers and fathers adopting slapping, parents were not afraid to report a higher likelihood of using caning as a form of punishment.

Third, punishment was assessed using hypothetical situations. Whether such situations reflect real-life punishment behavior can be questioned. Hypothetical situations can provide a reasonably accurate assessment of a variety of behaviors, however (e.g., Bronfenbrenner, 1970). Deater-Deckard et al. (1996) used different measures of punishment-interview, vignette, and questionnaire-and found the punishment-aggression link to be similar regardless of measure used. Hypothetical situations may also be advantageous in that they remove child effects in the punishment-aggression link.

Fourth, our data are correlational in nature and thus cannot afford causal conclusions. It is possible, for instance, that aggression in the school setting invokes parental use of punishment. Alternatively, specific child attributes (e.g., an antisocial disposition) may account for both punishment and aggression. Longitudinal designs will help to disentangle the direction of effects, but the difficulty of establishing causal relations will continue to plague studies on punishment (Gershoff, 2002a).

Our study can be viewed as a first test of Gershoff's (2002a, 2002b) process-context model. Gershoff's model is complex and awaits further testing, but as seen in our present results, it holds promise of providing a better understanding of the dynamics surrounding physical punishment. Future research should at least incorporate parent attributes (e.g., gender) and behaviors (e.g., rejection) and child attributes (e.g., gender), and distinguish different acts of punishment (e.g., caning vs. slapping). Cultural and ethnic considerations can also be further developed. One conceptual question that remains unanswered is whether physical punishment means the same thing for the four parentchild dyads across different cultures and ethnic groups (see, for example, Wu et al., 2002). Measurement experts (e.g., Chan, 1998) have long cautioned that any construct being examined across groups must hold the same meanings before the comparisons can be meaningful. Future research can also examine the dynamics for girls and boys younger or older than our preschooler age range.

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In summary, our results indicate that caning and slapping, although physical in nature as punitive acts, both have parent-specific and child-specific linkages with aggression. For these linkages, what may matter is what a particular parent does, as seen in the direct links between father caning and child aggression, and between mother slapping and son's aggression. At other times, what may matter is how a particular parent punishes, as seen in the links between mother caning and child aggression, which holds only when she is low on rejection, and between father slapping and daughters' aggression, which holds only when he is low on rejection.

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We examine how parental physical punishment (caning and slapping) and child aggression are related, and possible moderation by authoritative control and rejection. A sample of 286 Singapore Chinese preschoolers ages 4-6 reported on rejection; their parents reported on control, caning, and slapping; and their teachers rated child aggression. Results show that father caning is related to aggression, regardless of child gender, whereas mother caning is related to child aggression only at low rejection. Mother slapping is related to sons' aggression, whereas father slapping is related to daughters' aggression only at low rejection. Control does not moderate any of the punishment-aggression links. The punishment-aggression link is thus a complex one, dependent on the dyad, the punitive act, and the parent's behavior. [PUBLICATION ABSTRACT]Key Words: aggression, Chinese, control, punishment, rejection, Singapore.

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