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# Corporal Punishment, Maternal Warmth, and Child Adjustment: A Longitudinal Study in Eight Countries

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Two key tasks facing parents across cultures are managing children's behaviors (and misbehaviors) and conveying love and affection. Previous research has found that corporal punishment generally is related to worse child adjustment, whereas parental warmth is related to better child adjustment. This study examined whether the association between corporal punishment and child adjustment problems (anxiety and aggression) is moderated by maternal warmth in a diverse set of countries that vary in a number of socio-demographic and psychological ways. Interviews were conducted with 7- to 10-year-old children ( $N = 1,196$ ; 51% girls) and their mothers in 8 countries: China, Colombia, Italy, Jordan, Kenya, the Philippines, Thailand, and the United States. Follow-up interviews were conducted 1 and 2 years later. Corporal punishment was related to increases, and maternal warmth was related to decreases, in children's anxiety and aggression over time; however, these associations varied somewhat across groups. Maternal warmth moderated the effect of corporal punishment in some countries, with increases in anxiety over time for children whose mothers were high in both warmth and corporal punishment. The findings illustrate the overall association between corporal punishment and child anxiety and aggression as well as patterns specific to particular countries. Results suggest that clinicians across countries should advise parents against using corporal punishment, even in the context of parent-child relationships that are otherwise warm, and should assist parents in finding other ways to manage children's behaviors.

As primary socializing agents, parents are responsible for promoting desirable child behaviors, proactively as well as reactively, and for responding to misbehavior in ways that will prevent its reoccurrence. One way that parents sometimes try to manage children's misbehavior is corporal punishment. In a study of 30,470 families with 2- to 4-year-old children in 24 developing countries, 29% of parents reported believing that using corporal punishment is necessary to rear a child properly, and 63% of parents reported that their child had been corporally punished in the last month (Lansford & Deater-Deckard, 2012). The endorsement and use of corporal punishment is also widespread in developed countries. For example, 77% of American men and

65% of American women interviewed in 2008 agreed that sometimes a child needs a "good, hard spanking" (Child Trends, 2009); data from a cohort of children born between 1998 and 2000 and followed longitudinally revealed that almost 50% of American parents had spanked their 2- to 5-year-old child in the last month (MacKenzie, Nicklas, Brooks-Gunn, & Waldfogel, 2011). However, there is wide variability across countries. For example, in the 24 countries examined by Lansford and Deater-Deckard (2012), variability across countries ranged from a low of 28% in Bosnia and Herzegovina to a high of 84% in Jamaica of caregivers reporting that someone in their household had used corporal punishment with their child in the last month.

Despite the prevalence of corporal punishment in many developed and developing countries, its use is often regarded as problematic for two primary reasons. First, in the context of the Convention on the Rights of the Child (United Nations, 1989), corporal punishment is considered a human rights violation. The second reason that corporal punishment is often regarded as problematic is that corporal punishment has been found to relate to more child behavioral, psychological, and social problems (see Gershoff, 2002). In Gershoff's (2002) review and meta-analysis of 88 studies, the only desirable outcome associated with corporal punishment was immediate compliance with a parent's request. All other negative outcomes during childhood and adulthood (low child moral internalization, child aggression, child delinquent and antisocial behavior, adult aggression, and adult criminal and antisocial behavior) were associated with corporal punishment.

Although corporal punishment can be a salient aspect of parent-child relationships, corporal punishment does not occur in a vacuum. Instead, parents' use of corporal punishment (or not) occurs in the context of the overall parent-child relationship, which has a particular emotional climate (Darling & Steinberg, 1993). This overall emotional climate carries across all parent-child interactions and underlies parents' and children's behaviors in any specific encounter. One key aspect of the emotional climate of parent-child relationships is warmth, which has been defined as involving love, support, acceptance, comfort, and nurturance (Rohner, Khaleque, & Cournoyer, 2005).

Parental warmth has received considerable research attention. For example, warmth has been described as one of the key parenting elements in the promotion of secure attachment relationships (De Wolff & van IJzendoorn, 1997), and warmth constitutes one of the two primary components (along with control) in Baumrind's (1967) conceptualization of parenting styles. One of the reasons that warmth has received so much attention is that warm parent-child relationships promote children's behavioral adjustment (Macoby & Martin, 1983; Rohner, Bourque, & Elordi, 1996).

Given that both parental warmth and corporal punishment have been found to be related to children's adjustment, a theoretical framework that encompasses both negative and positive features of parenting has the potential to explain the development of children's behavior problems better than a framework that includes only a one-sided perspective on a single feature of parenting. Previous research suggests that maladaptive coercive trajectories between parents and children can be moderated by positive features of parent-child relationships. For example, Kochanska, Barry, Stellern,

and O'Brien (2009) found that when children had insecure attachment relationships at 15 months, subsequent parental power assertion predicted children's resentful opposition, which in turn predicted children's antisocial behavior. However, when children had secure attachment relationships at 15 months, this adversarial developmental trajectory from 25 to 67 months was disrupted.

The present study focuses on the question of whether the potentially deleterious effects of corporal punishment can be moderated by a parent-child relationship characterized by warmth. There is some evidence that corporal punishment and children's adjustment are unrelated after taking into account parental warmth (e.g., Darling & Steinberg, 1993; Germán, Gonzales, McClain, Dumka, & Millsap, 2013; Simons, Wu, Lin, Gordon, & Conger, 2000). For example, McLoyd and Smith (2002) found that, in the context of low maternal support, but not high maternal support, spanking predicted an increase in mother-reported internalizing and externalizing problems over time for European American, African American, and Latin American children from the National Longitudinal Survey of Youth. Similarly, McKee et al. (2007) reported that corporal punishment was related to more behavior problems for 10- to 11-year-old American children in a community sample, but this association was buffered by parental warmth. Using a parent-offspring behavior genetic design in a sample of 3- to 8-year-old children in biological and adoptive families in southern and central England and the northeastern and northwestern United States, Deater-Deckard, Ivy, and Petrill (2006) examined the correlation between interviewer-rated harshness of maternal corporal punishment and parent-rated child externalizing problems and tested whether the correlation varied as a function of maternal warmth or mother-child genetic similarity. For both genetically related and adoptive mother-child dyads, corporal punishment and child externalizing behaviors were positively correlated only in dyads that were low in maternal warmth. The evidence for the moderating role of warmth, however, has not been entirely consistent. Stacks, Oshio, Gerard, and Roe (2009) found, using data from European American, African American, and Latin American families in the Early Head Start Research and Evaluation Study, that maternal warmth did not moderate the link between spanking and child aggression at age 3 years, controlling for prior aggression. Thus, the extant research provides some evidence that warmth moderates the relation between corporal punishment and children's adjustment, but methodological factors such as whether prior adjustment is controlled and differences in the cultural backgrounds of the sample, may contribute to inconsistencies in findings regarding this relation.

## THE IMPORTANCE OF AN INTERNATIONAL PERSPECTIVE

One of the key questions yet to be addressed is how the context of countries in which mother–child dyads are situated might affect the moderating role of maternal warmth. In a variety of domains, parenting behaviors have been found to relate differently to children’s adjustment depending on the broader national, cultural, and emotional contexts in which these behaviors are situated, suggesting that effects of parenting behaviors may not be direct or universal. A study of links between corporal punishment and children’s adjustment in China, India, Italy, Kenya, the Philippines, and Thailand showed that more frequent corporal punishment was related to higher levels of child aggression and anxiety in all six countries, but the association was weaker in countries in which the use of corporal punishment was more normative (Lansford et al., 2005). In countries where corporal punishment is more normative, children may be less likely to perceive their own parents’ use of corporal punishment as indicating rejection, and children’s perceptions of parental acceptance and hostility have been found to mediate the relation between corporal punishment and children’s adjustment (Lansford, Malone, et al., 2010; Rohner et al., 1996).

It is possible that in some countries, the use of corporal punishment is unrelated to maternal warmth (e.g., they are two separate dimensions of parenting), whereas in other countries, the use of corporal punishment may be negatively related to maternal warmth (e.g., corporal punishment is an indicator that the mother–child relationship is lacking in warmth). In the same sample as used in the present analyses, the relation between parental warmth and control was found to differ across countries, with correlations ranging from near zero to .80 (Deater-Deckard et al., 2011). To the extent that the use of corporal punishment is associated with parental control, one might expect that in some countries there would be a single dimension of parenting characterized by both high warmth and lack of corporal punishment, whereas in other countries there might be two orthogonal dimensions of parenting that capture warmth and corporal punishment independently.

To attempt to capture some of this cross-national variability, we compared results for groups that have been shown in previous research with the sample used in the present analyses to have more versus less authoritarian beliefs about parenting, encompassing parents’ views regarding strictness, respect for authority, and children’s obedience (Bornstein, Putnick, & Lansford, 2011; Lansford & Bornstein, 2011). Of the countries included in the present study, there were conceptual as well as empirical reasons for grouping Colombia (Di Giunta, Uribe Tirado, & Márquez, 2011), Jordan (Al-Hassan &

Takash, 2011), Kenya (Oburu, 2011), the Philippines (Alampay & Jocson, 2011), and the African Americans from the United States (Lansford, Bornstein, et al., 2011) as contexts with more authoritarian attitudes about parenting. Parents in these groups tend to emphasize the hierarchical nature of parent–child relationships and the importance of children’s obedience and compliance (Bornstein et al., 2011). In the context of such relationships, corporal punishment may relate differently to children’s adjustment than in contexts characterized by less authoritarian parent–child relationships, as is more common in China (Chang, Chen, & Ji, 2011), Italy (Bombi et al., 2011), Sweden (Sorbring & Gurdal, 2011), and European Americans and Latin Americans in the United States (Lansford, Bornstein, et al., 2011).

Very few studies have examined whether warmth moderates the link between corporal punishment and children’s adjustment in different ways across different countries. In an exception, Simons et al. (2000) examined maternal and paternal warmth/control (operationalized as support, monitoring, and inductive reasoning) as a moderator of the link between corporal punishment and conduct problems in samples of families from Iowa and Taiwan. They found that corporal punishment was unrelated to child conduct problems in the American sample (unlike much other research) but found an interaction between corporal punishment and both maternal and paternal warmth/control in the Taiwanese sample. In Taiwan, corporal punishment was related to more conduct problems only when parents were low on warmth/control. Simons et al. concluded that in Taiwan, where corporal punishment tends to be more severe and frequent, when parents use corporal punishment in the absence of warmth and involvement, children may engage in antisocial behavior because they feel angry and unjustly treated, and thereby defiant of parental authority. In this way, the normative context of corporal punishment and warmth may alter the way in which corporal punishment and warmth are related to children’s adjustment.

## THE PRESENT STUDY

Here, we addressed two primary research questions. Does corporal punishment predict worse subsequent child adjustment, and does maternal warmth predict better subsequent child adjustment across countries, controlling for prior child adjustment? We hypothesized that across all countries, corporal punishment would predict more subsequent child adjustment problems and that warmth would predict fewer subsequent child adjustment problems, even after taking into account prior child adjustment. Controlling for initial levels of child adjustment was a key design feature of the present study. Previous research has established that not only

does parents' use of corporal punishment predict more subsequent child behavior problems but also children with more behavior problems elicit more corporal punishment from their parents (Lansford, Criss, et al., 2011). In addition, children with high levels of externalizing and internalizing problems may present challenges to parents that result in parents treating difficult children with less warmth (Huh, Tristan, Wade, & Stice, 2006). Controlling for children's initial behavior problems enabled us to test whether parenting contributes to subsequent child adjustment above and beyond stability in children's own behavior problems over time.

Our second research question was whether maternal warmth moderates the link between corporal punishment and child adjustment. Given previous research suggesting that corporal punishment may be less detrimental if it occurs in the context of parent-child relationships characterized by high warmth (e.g., Deater-Deckard et al., 2006; McLoyd & Smith, 2002), we hypothesized that maternal warmth would moderate the link between corporal punishment and children's externalizing and internalizing behaviors. We sought to investigate the possibility that the main effects of corporal punishment and warmth, and the interaction between corporal punishment and warmth, would differ across countries and across groups of countries characterized in previous research by more versus less authoritarian parenting attitudes. We focused on children who were, on average, 8, 9, and 10 years old at Times 1 to 3, respectively. Focusing on this developmental period was important both conceptually (because during this developmental period parents still use corporal punishment, but children are cognitively mature enough to reflect on this experience and perceive it in the context of their relationship with parents more broadly) and methodologically (because children were old enough to be able to report on their own perceptions of parental warmth rather than relying exclusively on parents' reports). Thus, an important design feature is that the analyses incorporated both children's and mothers' perspectives to yield complementary information (Gracia, Lila, & Musitu, 2005).

We included 13 groups from nine countries (China, Colombia, Italy, Jordan, Kenya, the Philippines, Sweden, Thailand, and the United States) in the initial phase of the present research, although two groups had rates of corporal punishment that were too low to include in the main analyses. This sample of countries was diverse on several sociodemographic dimensions, including predominant ethnicity, predominant religion, economic indicators, and indices of child well-being. For example, on the Human Development Index, a composite indicator of a country's status with respect to health, education, and income, participating countries ranged from a rank of four to 128 out of 169 coun-

tries with available data (United Nations Development Program, 2009). To provide a sense of what this range entails, the infant mortality rate in Kenya, for example, is 40 times higher than the infant mortality rate in Sweden. In the Philippines, 23% of the population falls below the international poverty line of less than \$1.25 per day, whereas less than 1% of the population falls below this poverty line in Italy, Sweden, or the United States. The purpose of recruiting families from these countries was to create an international sample that would be diverse with respect to a number of sociodemographic and psychosocial characteristics. Ultimately, this diversity provided an opportunity to examine our research questions in a sample that is more generalizable to a wider range of the world's populations than is typical in most research to date (Arnett, 2008; Bornstein, 2010; Henrich, Heine, & Norenzayan, 2010) and that provides a wide range of contexts that may have implications for how parenting is related to children's adjustment. In addition, with replication of research findings gaining importance in developmental science (Bonett, 2012), including 13 groups in nine countries in our meta-analytic approach enabled us to test the replicability of our findings across groups diverse in sociodemographic, economic, and psychosocial factors.

## METHOD

### Participants

Participants included 1,196 children (age range = 7–10 years,  $M = 8.30$ ,  $SD = .63$ ; 51% girls) and their mothers ( $n = 1,174$ ). Families were drawn from Jinan, China ( $n = 120$ ); Medellín, Colombia ( $n = 108$ ); Naples, Italy ( $n = 100$ ); Rome, Italy ( $n = 103$ ); Zarqa, Jordan ( $n = 114$ ); Kisumu, Kenya ( $n = 100$ ); Manila, Philippines ( $n = 120$ ); Chiang Mai, Thailand ( $n = 120$ ); and Durham, North Carolina, United States ( $n = 111$  European Americans,  $n = 103$  African Americans,  $n = 97$  Latin Americans). Data from Trollhättan/Vänersborg, Sweden, and Shanghai, China, were excluded from these analyses after preliminary results indicated that there was insufficient variability in corporal punishment to support the analysis. Participants were recruited through letters sent from schools. Response rates varied across countries (from 24% to nearly 100%), primarily because of differences in the schools' roles in recruiting. For example, in the United States, we were allowed to bring recruiting letters to the schools, and classroom teachers were asked to send the letters home with children. Children whose parents were willing for us to contact them to explain the study were asked to return a form to school with their contact information. We were then able to contact those families to try to obtain their

TABLE 1  
Means (Standard Deviations) for Corporal Punishment, Warmth, Anxiety, and Aggression

Variable	China	Colombia	Naples, Italy	Rome, Italy	Jordan	Kenya	Philippines	Thailand	AA, U.S.	EA, U.S.	LA, U.S.
M: T1 Punishment	.17 (.26)	.26 (.31)	.24 (.27)	.27 (.28)	.33 (.33)	.43 (.32)	.31 (.31)	.21 (.25)	.18 (.23)	.07 (.15)	.10 (.19)
C: T1 Warmth	3.22 (.43)	3.72 (.34)	3.59 (.47)	3.55 (.47)	4.61 (3.40)	3.10 (.60)	3.56 (.47)	3.20 (.62)	3.69 (.48)	3.76 (.28)	3.67 (.47)
M: T1 Anxiety	4.31 (2.96)	7.80 (4.99)	7.83 (4.33)	6.37 (4.28)	6.84 (3.24)	6.23 (3.87)	6.18 (3.93)	4.61 (3.00)	3.72 (3.59)	5.37 (4.05)	5.95 (4.10)
M: T1 Aggression	7.93 (4.58)	11.44 (6.93)	10.82 (6.06)	9.68 (5.11)	11.05 (5.86)	8.89 (5.72)	11.03 (6.15)	8.24 (4.80)	7.52 (7.12)	8.00 (6.30)	9.33 (5.65)
C: T1 Anxiety	5.73 (3.94)	9.56 (5.81)	8.10 (4.41)	7.48 (4.92)	8.49 (4.75)	5.21 (3.90)	9.21 (4.33)	7.11 (4.50)	6.38 (4.63)	6.59 (3.75)	7.22 (4.80)
C: T1 Aggression	5.60 (4.64)	7.45 (5.60)	8.34 (5.21)	7.36 (4.19)	9.56 (5.23)	5.00 (3.70)	8.28 (5.71)	7.20 (5.58)	7.19 (5.98)	6.84 (4.15)	6.49 (5.16)
M: T2 Anxiety	3.91 (3.12)	7.42 (4.18)	7.72 (4.71)	6.41 (4.97)	6.00 (3.56)	4.66 (2.98)	5.75 (3.55)	4.39 (3.13)	3.07 (4.02)	5.36 (4.48)	5.01 (3.94)
M: T2 Aggression	6.55 (4.74)	9.71 (6.52)	10.61 (6.47)	9.70 (5.42)	9.23 (6.09)	6.64 (4.70)	10.22 (6.59)	7.89 (5.31)	7.11 (6.88)	7.03 (6.74)	7.90 (6.20)
C: T2 Anxiety	5.61 (4.22)	9.04 (4.93)	7.35 (4.74)	6.95 (4.82)	7.59 (4.59)	4.31 (3.52)	9.26 (4.79)	7.50 (4.72)	5.16 (4.50)	6.55 (4.61)	5.90 (4.47)
C: T2 Aggression	5.27 (4.32)	8.11 (4.93)	8.81 (5.25)	7.97 (4.43)	10.36 (6.23)	6.60 (5.72)	8.99 (6.49)	7.86 (5.68)	6.49 (5.72)	6.68 (4.48)	5.95 (5.18)
M: T3 Anxiety	3.46 (3.27)	6.99 (4.32)	7.82 (5.01)	6.55 (4.80)	5.34 (3.76)	4.81 (2.43)	5.73 (4.27)	3.59 (3.25)	2.44 (2.76)	4.64 (4.60)	4.36 (3.72)
M: T3 Aggression	6.00 (4.04)	10.32 (6.44)	10.38 (5.91)	9.16 (5.42)	8.64 (5.86)	6.71 (4.22)	10.52 (6.57)	6.09 (4.63)	6.26 (7.04)	6.75 (6.56)	6.73 (6.02)
C: T3 Anxiety	3.90 (3.70)	5.99 (3.99)	6.15 (3.90)	5.89 (4.13)	6.72 (4.32)	4.68 (2.33)	9.68 (4.51)	7.47 (4.67)	4.74 (4.22)	6.25 (4.60)	5.03 (5.08)
C: T3 Aggression	4.42 (3.98)	5.68 (4.02)	7.75 (4.35)	7.80 (4.69)	9.79 (6.22)	7.14 (4.14)	9.82 (6.13)	8.24 (5.39)	6.80 (5.60)	7.08 (4.98)	5.33 (5.85)
Mother Education	12.58 (2.99)	10.64 (5.60)	10.14 (4.35)	14.14 (4.07)	13.13 (2.18)	10.69 (3.65)	13.61 (4.07)	12.30 (4.76)	13.65 (2.36)	16.95 (2.84)	9.83 (4.08)
% of Original Sample With T3 Data	98	93	95	91	98	95	86	84	91	90	81

Note: The four corporal punishment items and 8 warmth items are presented as composite scales in the table, but in the multivariate analyses, the items were treated as indicators of latent variables. M = mother report; C = child report; T1 = Time 1; T2 = Time 2; T3 = Time 3; AA = African American; EA = European American; LA = Latin American.

consent to participate, scheduling interviews to take place in participants' homes. Much higher participation rates were obtained in countries in which the schools had more involvement in recruiting the sample. For example, in China, once the schools agreed to participate, they informed parents that the school would be participating in the study and allowed our researchers to use the school space to conduct the interviews. Virtually all of the parents in the Chinese sample agreed to participate once the school informed them of the school's participation.

Most parents (82%) were married, and nonresidential parents were able to provide data. Nearly all were biological parents, with 3% being grandparents, stepparents, or other adult caregivers. To maximize representativeness, sampling focused on including families from the majority ethnic group in each country; the exception was in Kenya in which we sampled the Luo ethnic group (third largest, 13% of population), and in the United States, where we sampled European American, African American, and Latin American families. To ensure economic diversity, we included students from private and public schools and from high- to low-income families, sampled in proportions representative of each recruitment area. Child age and gender did not vary across countries. At the follow-up interviews 1 year after the initial interviews, 94% of the original sample continued to provide data; 91% of the original sample continued to provide data 2 years after the initial interviews (see Table 1 for the percentages of the original sample providing Time 3 data in each country). The mean age of the children was 9.37 years ( $SD = .73$ ) at Time 2 and 10.40 ( $SD = .73$ ) at Time 3. Participants who

provided Time 2 and 3 data did not differ from the original sample with respect to child gender, parents' marital status, or mothers' education.

### Procedures and Measures

Measures were administered in the predominant language of each country, following forward- and back-translation and meetings to resolve any item-by-item ambiguities in linguistic or semantic content (Erkut, 2010). Translators were fluent in English and the target language. In addition to translating the measures, translators noted items that did not translate well, were inappropriate for the participants, were culturally insensitive, or elicited multiple meanings and suggested improvements. Country coordinators and the translators reviewed the discrepant items and made appropriate modifications. Measures were administered in Mandarin Chinese (China), Spanish (Colombia and the United States), Italian (Italy), Arabic (Jordan), Dholuo (Kenya), Filipino (the Philippines), Thai (Thailand), and American English (the United States and the Philippines).

Interviews lasted 1.5 to 2 hr at each of the three waves and were conducted in participants' homes, schools, or at other locations chosen by the participants. Procedures were approved by local Institutional Review Boards at universities in each participating country; mothers and children provided consent and assent, respectively, and were interviewed separately to ensure privacy. Mothers were given the option of having the questionnaires administered orally (with rating scales provided as visual aids) or completing written questionnaires. Preliminary analyses controlling for mothers' level of education

revealed no differences by mode of administration in any country for mothers' reports of corporal punishment. Within the United States, there were a few differences in reported child anxiety and aggression between mothers who completed the measures orally versus in writing. All children completed the questionnaires orally, with questions read and responses recorded by trained interviewers. Children were given small gifts to thank them for their participation, and mothers were given modest financial compensation for their participation, families were entered into drawings for prizes, or modest financial contributions were made to children's schools.

At Time 1, corporal punishment was assessed using items developed by UNICEF (UNICEF Division of Policy and Planning, 2006) for their Multiple Indicator Cluster Survey. The items were selected by convening an international panel of 25 experts to identify candidate items from existing validated measures of caregiving; field testing candidate items via cognitive interviews and quantitative surveys in the Americas, South Asia, and Africa; and convening a second international panel of 27 experts to evaluate items' performance within and across diverse cultures and settings (Kariger et al., 2012). The items that resulted from this process were adapted from the Parent-Child Conflict Tactics Scale (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) and the WorldSAFE survey questionnaire (Sadowski, Hunter, Bangdiwala, & Munoz, 2004). For the present analyses, mothers were asked whether they or anyone in their household had used each of four forms of corporal punishment (i.e., spanked, hit, or slapped with a bare hand; hit or slapped on the hand, arm, or leg; hit or slapped on the face; shook) with the target child in the last month (0 = no, 1 = yes). These items have demonstrated good psychometric properties in large, nationally representative samples in more than 25 countries (Lansford & Deater-Deckard, 2012; UNICEF Division of Policy and Planning, 2006). In the analyses, the four dichotomous items were used as indicators of a latent factor.

At Time 1, maternal warmth was assessed using the Parental Acceptance-Rejection/Control Questionnaire (Short Form), an instrument with strong psychometric properties that has been translated into 28 languages and used in more than 60 countries (Rohner, 2005). In a meta-analysis of the reliability of the Parental Acceptance-Rejection/Control Questionnaire using data from 51 studies in eight countries, Khaleque and Rohner (2002) concluded that alpha coefficients exceeded .70 in all groups, effect sizes were homogenous across groups, and convergent and discriminant validity were demonstrated (Rohner, 2005). The original 4-point scale (*almost never true* to *almost always true*) was modified in this study to refer to concrete periods to be more

comparable across countries: 1 (*almost never*), 2 (*once a month*), 3 (*once a week*), 4 (*every day*). We used eight items reported by children in relation to their mothers (e.g., "My mother lets me know she loves me") as indicators of a latent factor.

At Times 1, 2, and 3 mothers and children, respectively, completed the Child Behavior Checklist (CBCL) and Youth Self-Report (YSR; Achenbach, 1991). For this study, we focused on two of the subscales: Aggression (20 items in CBCL, 19 items in YSR; e.g., "My child gets in many fights" or "I get in many fights") and Anxiety (14 items in CBCL and YSR; e.g., "My child is too fearful or anxious" or "I am too fearful or anxious"). Mothers and children indicated whether each behavior was *not true* (coded as 0), *somewhat or sometimes true* (coded as 1), or *very true or often true* (coded as 2). The Achenbach measures have been translated into at least 69 languages, and more than 5,000 published studies have used this measure with at least 60 cultural groups (Achenbach, 2004). Aside from the measures' widespread use in different countries (see Crijnen, Achenbach, & Verhulst, 1997), several researchers have specifically demonstrated cross-cultural and cross-language equivalence of the measures across cultural groups (e.g., Weisz, Suwanlert, Chaiyasit, & Walter, 1987). Mother- and child-report items were summed to compute composite aggression and anxiety/depression scales at each of the three time points. We chose to examine children's anxiety/depression and aggression rather than internalizing and externalizing more broadly because we believed these more narrow-band problems would introduce fewer interpretive difficulties in our diverse international sample; however, these narrow-band aggression and anxiety/depression scales correlated highly with broader externalizing and internalizing subscales, respectively (.90 or greater for both reporters and across all three time points). Alphas across reporters and years ranged from .75 to .87. See Table 1 for descriptive statistics for all measures.

## RESULTS

Our primary research questions were whether corporal punishment and warmth predict subsequent child adjustment, controlling for prior child adjustment in terms of anxiety and aggressiveness, and whether maternal warmth moderates the link between corporal punishment and child adjustment across diverse countries. We addressed these questions through a series of country-specific models in *Mplus v7* (L. K. Muthén & Muthén, 2012), which were combined using meta-analytic methods (Card, 2012). This strategy enabled us to use the best parameter estimates for each



country without assuming measurement invariance. Meta-analytic approaches are particularly useful for handling different patterns of correlations in different groups because they are specifically designed to determine whether the different patterns, when taken together, support particular conclusions about relations among the variables. Missing data for each country (ranging from 0% to 9% for each variable) were handled using full information maximum likelihood estimation, which results in parameter estimates that are generally superior to those obtained with listwise deletion or other ad hoc methods (Schafer & Graham, 2002).

Each model included three latent variables as predictors of latent linear slopes in one latent outcome (anxiety or aggression, in separate models). The predictor variables in each model were Time 1 corporal punishment, Time 1 maternal warmth, and their interaction. Covariates included child gender, mother's education, and a dichotomous indicator of single-parent household (except in China, where there were no single-parent households in the sample). We chose to control for maternal education as an indicator of socioeconomic status because education level (once achieved) is more stable across the lifespan than income or occupational status, and number of years of education completed is a roughly comparable index of socioeconomic status across cultures (Bornstein, Hahn, Suwalsky, & Haynes, 2002). We randomly parceled the eight indicators of warmth into four two-item aggregates in order to keep the number of parameters being estimated manageable for the modest within-country sample sizes. The interaction term was created with the *Mplus* XWITH command, which applies a procedure similar to that of Klein and Moosbrugger (2000; B. Muthén & Asparouhov, 2003). The estimation of interactions between latent variables in *Mplus* relies on random effects modeling, which does not yield overall model fit statistics. However, preliminary measurement modeling without the interaction term indicated acceptable fit. The behavior problem outcome was modeled as a pair of linear latent growth models of anxiety or aggression across Time 1, Time 2, and Time 3, with our interest focused on the estimated rate of change. Both mother-report and child-report behavior problems were included in each model, with residual within-time covariances estimated.

This procedure resulted in 11 models each for anxiety and aggression. Separately for anxiety and aggression, we conducted a random-effects meta-analysis to establish the best estimate of effect size (standardized regression coefficient) for the entire sample and country-based variability in that effect size for each key predictor. We modeled random effects to reflect that both the countries and the within-country samples were sampled by convenience. When we found variability

across countries, we performed an additional test of whether the five groups found in previous research to be more authoritarian (i.e., Colombia, Jordan, Kenya, Philippines, African Americans in the United States) differed from the six less authoritarian groups (i.e., China; Naples, Italy; Rome, Italy; Thailand; European Americans and Latin Americans in the United States). Meta-analytic estimates of the standardized regression coefficients were weighted by the inverse of the coefficient's standard error, following recommendations in Card (2012). We used Q statistics to test variability in standardized coefficients, comparing them to a chi-square distribution; the Q statistic essentially provides a test of moderation, in this case whether the links among corporal punishment, warmth, and child adjustment differ across countries. The country-specific models were estimated in *Mplus*, but the meta-analysis itself was hand-coded in spreadsheet software.

### Anxiety Problems

Coefficient estimates and associated standard errors for the 11 country-specific models are presented in Table 2. The main effects reported in the table and described next address our first research question regarding relations between corporal punishment and child anxiety and between maternal warmth and child anxiety. The interaction effects reported in the table and described next address our second research question regarding whether maternal warmth moderates the link between corporal punishment and child anxiety.

*Mother-report of child's anxiety problems.* The meta-analytic estimate of the overall effect of the interaction between Time 1 corporal punishment and Time 1 warmth on growth in mother-reported child anxiety was significant ( $\beta = 0.047$ ,  $SE = 0.020$ ,  $Est./SE = 2.39$ ,  $p = .017$ ). This effect is depicted in Figure 1. The mean slope is mildly declining (meaning that, on average, anxiety decreased over time) and holds when warmth is low ( $-1 SD$ ), regardless of corporal punishment. In the context of high warmth, high corporal punishment keeps anxiety elevated, but anxiety drops in contexts of high warmth paired with low corporal punishment. The interaction did not vary significantly by country,  $Q(11) = 12.8$ ,  $p = .233$ . The overall main effect of Time 1 corporal punishment was significant and adverse ( $\beta = 0.058$ ,  $SE = 0.022$ ,  $Est./SE = 2.66$ ,  $p = .008$ ). This effect varied significantly by country,  $Q(11) = 88.2$ ,  $p < .001$ . A follow-up test indicated that the aggregate effect in the five more-authoritarian groups differed significantly from the aggregate effect in the six less-authoritarian groups,  $Q(1) = 42.0$ ,  $p < .001$ . Visual

TABLE 2  
Relations of Child-Reported Warmth, Mother-Reported Corporal Punishment, and Their Interaction With Child Anxiety

Reporter of Anxiety	n	China	Colombia	Naples, Italy	Rome, Italy	Jordan	Kenya	Phil.	Thai.	AA, U.S.	EA, U.S.	LA, U.S.
Mother												
β - Interaction	120	0.169 (0.192)	0.068 (0.079)	0.074 (0.079)	0.089 (0.173)	-0.082 (0.066)	0.028 (0.050)	-0.054 (0.080)	0.104 (0.129)	0.121* (0.035)	-0.062 (0.078)	0.034 (0.051)
β - Warmth	108	-0.097 (0.061)	-0.110 (0.084)	0.097 (0.086)	-0.130 (0.084)	0.019 (0.057)	-0.102 (0.084)	-0.025 (0.062)	-0.059 (0.167)	-0.025 (0.030)	0.050 (0.057)	0.194* (0.068)
β - Punish	100	0.020 (0.074)	-0.012 (0.079)	-0.050 (0.124)	-0.105 (0.176)	-0.012 (0.066)	-0.061 (0.090)	-0.154* (0.067)	0.059 (0.330)	-0.257* (0.038)	0.030 (0.074)	0.453* (0.068)
Child												
β - Interaction	120	0.193 (0.115)	-0.644* (0.064)	-0.198* (0.096)	0.129 (0.155)	-0.152 (0.101)	-0.007 (0.102)	-0.206 (0.170)	0.066 (0.095)	0.006 (0.053)	0.340* (0.056)	-0.035 (0.114)
β - Warmth	100	-0.006 (0.063)	0.001 (0.073)	-0.268* (0.134)	0.181 (0.141)	0.234* (0.082)	0.287* (0.110)	-0.074 (0.077)	0.244 (0.812)	0.164* (0.062)	0.042 (0.059)	-0.102 (0.086)
β - Punish	114	0.052 (0.061)	0.140 (0.075)	0.106 (0.114)	-0.223 (0.151)	-0.062 (0.086)	-0.013 (0.082)	-0.026 (0.082)	0.423 (1.099)	-0.115 (0.067)	0.202* (0.066)	0.393* (0.134)

Note: Tabled values are standardized coefficient estimates (standard errors), which can be interpreted as effect sizes, from country-specific models for main effects of warmth and corporal punishment and the interaction between warmth and corporal punishment in the prediction of mother-reported and child-reported child anxiety. Analyses controlled for child gender, mother's education, and a dichotomous indicator of single-parent household. AA = African American; EA = European American; LA = Latin American.  
\**p* < .05.

inspection of Table 2 suggests that the more authoritarian groups tended to show less adverse effects of corporal punishment. Finally, the main effect of maternal warmth on change in anxiety was not significant ( $\beta = -0.012$ ,  $SE = 0.018$ ,  $Est./SE = 0.650$ ,  $p = .516$ ), but there was significant variability by country,  $Q(11) = 18.8$ ,  $p = .042$ . The same follow-up test did not show a difference by authoritarian parenting,  $Q(1) = 1.77$ ,  $p = .183$ . Only the U.S. Latin American sample showed a significant adverse effect of maternal warmth.

*Child-report of anxiety problems.* The meta-analytic estimate of the overall effect of the interaction between Time 1 corporal punishment and Time 1 warmth on growth in child-reported anxiety was not significant ( $\beta = -0.042$ ,  $SE = 0.025$ ,  $Est./SE = 1.67$ ,  $p = .095$ ), but there was significant variability by country,  $Q(11) = 26.6$ ,  $p = .003$ . The split on authoritarianism yielded a significant difference,  $Q(1) = 51.1$ ,  $p < .001$ . As shown in Table 2, the effect in the European American sample was positive and significant (congruent with the aggregate effect for mother-reported anxiety shown in Figure 1); effects in Colombia and Naples, Italy, were significantly negative. The aggregate main effect of Time 1 corporal punishment was not significant ( $\beta = 0.045$ ,  $SE = 0.026$ ,  $Est./SE = 1.75$ ,  $p = .081$ ). This effect varied significantly by country,  $Q(11) = 25.8$ ,  $p = .004$ . The follow-up test indicated that the aggregate effect in the more-authoritarian groups differed significantly from the aggregate effect in the remaining groups,  $Q(1) = 6.87$ ,  $p = .009$ . Visual inspection of Table 2 suggests that the more authoritarian groups showed less adverse effects of corporal punishment. The European American and U.S. Latin American samples showed significant adverse effects. Finally, the main effect of maternal warmth on change in anxiety was significant ( $\beta = 0.049$ ,  $SE = 0.025$ ,  $Est./SE = 1.99$ ,  $p = .047$ ), and there was significant variability by country,  $Q(11) = 26.6$ ,  $p = .003$ . The follow-up test showed a difference by authoritarian parenting,  $Q(1) = 5.48$ ,  $p = .019$ , with less beneficial effects of warmth in the more authoritarian groups.

### Aggression Problems

Coefficient estimates and associated standard errors for the aggression models are presented in Table 3. As with the results from the analyses related to child anxiety, the main effects reported in the table and described next address our first research question regarding relations between maternal corporal punishment and child aggression and between maternal warmth and child aggression. The interaction effects reported in the table and described next address our second research question regarding whether maternal warmth moderates the link

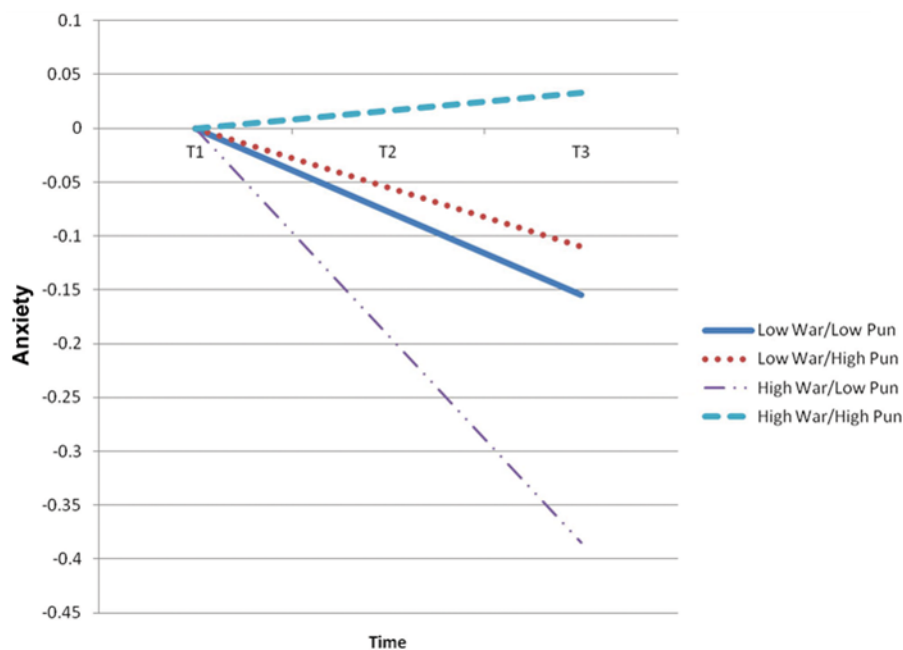


FIGURE 1 Model-implied slopes representing change in anxiety over the 3 years at different levels of corporal punishment (pun) and maternal warmth (war). *Note:* The scaling is zeroed at Time 1 to highlight the slope differences, instead of confounding them with intercept differences. The y-axis is an effect size scale, relative to standard deviations of the slope.

between maternal corporal punishment and child aggression.

**Mother-report of child's aggression problems.** The meta-analytic estimate of the overall effect of the interaction between Time 1 corporal punishment and Time 1 warmth on growth in mother-reported child aggression was significant ( $\beta = 0.6130$ ,  $SE = 0.038$ ,  $Est./SE = 16.22$ ,  $p < .001$ ), and there was significant between-country variability,  $Q(11) = 88.9$ ,  $p < .001$ . A follow-up test indicated that the aggregate effect in the five more-authoritarian groups differed significantly from the aggregate effect in the remaining six groups,  $Q(1) = 75.7$ ,  $p < .001$ . Table 3 suggests that the effect is largely driven by the large interaction effect in the African American sample. The overall main effect of Time 1 corporal punishment was significant and adverse ( $\beta = 0.327$ ,  $SE = 0.056$ ,  $Est./SE = 5.82$ ,  $p < .001$ ). This effect varied significantly by country,  $Q(11) = 21.2$ ,  $p = .020$ . The parallel follow-up test indicated that the aggregate effect in the five more-authoritarian groups did not differ significantly from the aggregate effect in the six less-authoritarian groups,  $Q(1) = 1.78$ ,  $p = .182$ . Finally, the main effect of maternal warmth on change in aggression was significant ( $\beta = 0.408$ ,  $SE = 0.039$ ,  $Est./SE = 10.47$ ,  $p < .001$ ), and there was a significant difference across countries,  $Q(11) = 34.29$ ,  $p < .001$ .

The follow-up test indicated a difference between the more authoritarian versus the less authoritarian groups.

**Child-report of aggression problems.** The meta-analytic estimate of the overall effect of the interaction between Time 1 corporal punishment and Time 1 warmth on growth in child-reported aggression was not significant ( $\beta = -0.024$ ,  $SE = 0.097$ ,  $Est./SE = 0.24$ ,  $p = .807$ ), and there was no significant variability by country,  $Q(11) = 12.22$ ,  $p = .271$ . The aggregate main effect of Time 1 corporal punishment was not significant ( $\beta = -0.002$ ,  $SE = 0.093$ ,  $Est./SE = 0.02$ ,  $p = .987$ ). This estimate did not vary significantly by country,  $Q(11) = 17.0$ ,  $p = .076$ . Finally, the main effect of maternal warmth on change in aggression was significant ( $\beta = 0.323$ ,  $SE = 0.084$ ,  $Est./SE = 3.86$ ,  $p < .001$ ). This effect did not differ significantly by country,  $Q(11) = 9.75$ ,  $p = .463$ .

## DISCUSSION

Across the 11 groups in the eight countries included in the present analyses, we found that both corporal punishment and maternal warmth, as well as their interaction, are related to change in children's anxiety and

TABLE 3  
Relations of Child-Reported Warmth, Mother-Reported Corporal Punishment, and Their Interaction With Child Aggression

Reporter of Anxiety	n	China	Colombia	Naples, Italy	Rome, Italy	Jordan	Kenya	Phil.	Thai.	AA, U.S.	EA, U.S.	LA, U.S.
		120	108	100	103	114	100	120	120	103	111	97
Mother												
β - Interaction	0.263 (0.222)	-0.047 (0.576)	-0.162 (0.247)	-0.236 (0.227)	-0.444 (0.340)	-0.449 (0.886)	-0.505 (0.330)	0.360 (0.243)	-0.798* (0.043)	0.147 (0.137)	-0.406 (0.219)	
β - Warmth	-0.333 (0.230)	0.322 (0.186)	0.432 (0.214)	-0.120 (0.263)	0.224 (0.271)	-0.140 (0.381)	-0.035 (0.187)	0.426 (0.395)	0.511* (0.045)	0.804 (0.347)	-0.027 (0.217)	
β - Punish	0.373 (0.276)	-0.350* (0.238)	0.594* (0.262)	0.339 (0.261)	-0.311 (0.358)	0.318 (0.642)	0.375 (0.216)	0.175 (0.561)	0.376* (0.069)	0.795* (0.289)	0.114 (0.646)	
Child												
β - Interaction	0.653 (0.344)	-0.001 (1.318)	-0.547 (0.304)	0.577 (0.698)	-0.039 (0.215)	-0.045 (0.207)	-0.472 (0.480)	0.088 (0.349)	0.399 (0.288)	-0.287 (0.271)	-0.618 (0.810)	
β - Warmth	-0.270 (0.237)	-0.359 (0.473)	-0.358 (0.348)	-0.301 (0.299)	-0.608* (0.234)	-0.714* (0.208)	-0.076 (0.262)	-0.500 (0.625)	-0.158 (0.190)	-0.287 (0.514)	0.192 (0.302)	
β - Punish	0.289 (0.312)	0.296 (0.229)	0.122 (0.384)	-0.122 (0.291)	-0.567* (0.221)	-0.270 (0.238)	-0.002 (0.399)	0.737 (0.818)	0.761* (0.334)	-0.102 (0.403)	0.179 (0.432)	

Note: Tabled values are standardized coefficient estimates (standard errors), which can be interpreted as effect sizes, from country-specific models for main effects of warmth and corporal punishment and the interaction between warmth and corporal punishment in the prediction of mother-reported and child-reported child aggression. Analyses controlled for child gender, mother's education, and a dichotomous indicator of single-parent household. AA = African American; EA = European American; LA = Latin American.  
\*  $p < .05$ .

aggression over time, but the specific forms of these relations depend somewhat on the particular country and whether mother- or child-reported anxiety and aggression are examined. A major strength of these findings is that they are derived from a much more diverse, international sample that is more representative of the world's population than is the case in the majority of psychological research. An additional strength of these analyses is that they incorporated both children's and mothers' perspectives, which is important because the two perspectives yield complementary information (Gracia et al., 2005). In addition, the longitudinal findings address the question of whether corporal punishment and warmth predict future child adjustment after taking into account prior behavior problems that may initially have elicited corporal punishment or low warmth.

Consistent with much previous research on the negative effects of corporal punishment on children (e.g., Gershoff, 2002; Lansford et al., 2005), our first hypothesis that corporal punishment would predict more subsequent child adjustment problems was generally supported (with the exception of children's reports of their own aggression), even after taking into account prior child adjustment. Despite the overall relation between corporal punishment and growth in mother-reported child anxiety and aggression and child-reported anxiety over time, there was significant variability across groups in the nature of this relation, with less adverse effects found in groups that have been found in previous research to be more authoritarian. This variability is consistent with previous research that has shown cultural normativeness of corporal punishment to moderate the relation between corporal punishment and children's adjustment (Gershoff et al., 2010; Lansford et al., 2005). In the more authoritarian groups in this study, parents have been found to value children's obedience and conformity to parents' directives (e.g., Alampay & Jocson, 2011; Al-Hassan & Takash, 2011; Bornstein et al., 2011; Di Giunta et al., 2011; Oburu, 2011). Thus, in the more authoritarian contexts, corporal punishment may have been part of a broader pattern of culturally endorsed no-nonsense parenting, although the overall effect of corporal punishment was still adverse.

Our hypothesis that maternal warmth would predict a decrease in child anxiety and aggression over time was also generally supported, again with some variability across countries. Previous research also has demonstrated that warmth is related to children's adjustment (Maccoby & Martin, 1983; Rohner et al., 1996). This main effect should also be considered in light of the interaction between warmth and corporal punishment. For three of the four outcomes examined (the exception was child-reported aggression for which the interaction was not significant and did not vary across countries), we found some

support for our second hypothesis that warmth moderates the link between corporal punishment and children's adjustment. Again, the interaction varied across groups. The overall pattern was that children's anxiety decreased over time most rapidly for children whose mothers were high in warmth and low in corporal punishment, followed by children whose mothers were low in both warmth and corporal punishment, and children whose mothers were low in warmth but high in corporal punishment. Children whose mothers were high in both warmth and corporal punishment had increasing rather than decreasing anxiety over time. Thus, in contrast to maternal warmth protecting against detrimental effects of corporal punishment, as has been suggested by some previous research (e.g., McLoyd & Smith, 2002), our findings suggest that corporal punishment may be especially harmful in the context of high warmth. The exception to this pattern was for child-reported anxiety in Colombia and Naples, Italy, where the interaction took the protective form reported in previous research.

Although we framed our second research question in terms of whether maternal warmth moderates the link between corporal punishment and children's adjustment, as this is a hypothesis that has been posited in previous research (e.g., Deater-Deckard et al., 2006; McLoyd & Smith, 2002), it is also plausible to frame the question as whether corporal punishment moderates the link between maternal warmth and children's adjustment. In examining the interaction between corporal punishment and maternal warmth, our analyses did not distinguish between these two ways of framing the question, and our data can be interpreted as providing evidence that corporal punishment and warmth can each moderate the effects of the other.

It is important to contextualize findings about corporal punishment and maternal warmth in the broader social circumstance in each country. For example, countries that endorse corporal punishment may be characterized by authoritarian parenting, whereas countries that ban corporal punishment may be characterized by permissive, lax, or laissez-faire parenting (see Patterson & Fisher, 2002). Advantages of our analytic approach were the ability to obtain an overall, meta-analytic effect across groups and a test for variability around this average effect.

#### Limitations and Directions for Future Research

In this study we treated the 11 groups primarily as an omnibus source of variation in the sample to examine whether the findings held in a diverse set of national contexts in which parent-child interactions are situated. The samples were not nationally representative, and appropriate caution about generalizability is warranted. The nature of specific cultural factors within each country that could have affected the links between parenting

and children's adjustment may vary across countries. For example, Sweden outlawed the use of corporal punishment in 1979; rates of corporal punishment and endorsements of its use are quite low, both in our sample (Lansford, Alampay, et al., 2010) and in other Swedish samples (e.g., Durrant, 1999). In fact, in the present study, the rates were so low that we could not include Sweden in the analyses because only four Swedish mothers reported using any corporal punishment. In the Swedish context, a generation of both parents and children is interacting without corporal punishment being part of parenting. If a parent uses corporal punishment it may be very difficult for the child to perceive the parent as being warm and loving. Instead, the child may be more likely to perceive the parent as being out of control and rejecting. Because cultural groups in which corporal punishment is normative also have higher rates of societal violence (Lansford & Dodge, 2008), an additional direction for future research will be to understand how corporal punishment fits into the broader cultural context in which children are reared.

Our grouping of countries as more versus less authoritarian for some of the analyses has advantages in terms of offering a heuristic for understanding patterns of findings across countries. However, country-specific detail is lost in dichotomizing the sample, so caution is warranted to avoid overgeneralizing across diverse populations. A direction for future research will be to explicate cultural values, beliefs, and norms within countries as well as between countries that might have implications for associations between parenting and children's adjustment. In addition, we did not measure parenting style in this study but instead relied on differences in authoritarianism reported in previous research. Therefore, the findings should be interpreted with caution.

We chose to employ a measure of corporal punishment developed by UNICEF (UNICEF Division of Policy and Planning, 2006) because it was designed and standardized across a wide range of countries. There is controversy in the literature regarding what specific forms of corporal punishment to include in composite measures of "ordinary" corporal punishment versus physical abuse (Baumrind, Larzelere, & Cowan, 2002), although some, including the United Nations (United Nations Committee on the Rights of the Child, 2007), have argued that any form of corporal punishment is abuse (Whipple & Richey, 1997). In the present study, we included different forms of corporal punishment that are widely used in several countries (e.g., Lansford & Deater-Deckard, 2012; Straus & Stewart, 1999). Operationalizing corporal punishment in a different manner may have led to different results. In addition, during middle childhood (the period covered by our study), parents typically decrease in their use of corporal punishment compared to developmentally earlier

periods (Straus & Stewart, 1999). Therefore, children's age may have implications for how corporal punishment affects children's adjustment and whether warmth moderates such effects. An additional direction for future research will be to examine the role of fathers' warmth in relation to children's adjustment and as a potential moderator of the link between fathers' corporal punishment and children's adjustment.

Mothers were given the choice to complete measures in writing or orally, and all children completed measures orally. Although we found no evidence for differences in mothers' responses based on whether the measures were completed in writing or orally (with the exception of internalizing and externalizing in the United States), it is possible that children were more likely to respond in ways they perceived as being socially desirable given that they were responding orally to the measures. An additional measurement limitation is that we relied on reports rather than observations of warmth. Reports have the advantage of representing children's perceptions of their parents' warmth, which may be more importantly related to their adjustment than expressed warmth; nevertheless, future research that includes observations of warmth would be desirable.

It will also be important for future research to expand beyond corporal punishment to examine how other disciplinary approaches relate to children's adjustment in diverse countries. Previous research that has taken a comparative approach among different forms of discipline with North American (often middle-class European American) samples typically finds that inductive forms of discipline such as reasoning and offering explanations are related to better child adjustment than more reactive forms of discipline (e.g., Grusec & Goodnow, 1994). In cross-sectional analyses of samples from China, India, Italy, Kenya, the Philippines, and Thailand, Gershoff et al. (2010) found that several forms of discipline including giving time-outs, expressing disappointment, yelling, and shaming were all related to higher levels of child aggression and anxiety; because only cross-sectional data were available in the Gershoff et al. study, it was not possible to examine change in child adjustment associated with different forms of discipline, controlling for prior adjustment. Future research would benefit from examining a variety of disciplinary responses in conjunction with one another, as parents are likely to use a variety of approaches rather than just one.

### Implications for Clinical Practice

An important direction for future research to extend these findings to clinical practice will be to investigate how links between parenting and child adjustment may differ for

children with and without a variety of clinically relevant traits. In a study of clinic-referred boys with conduct disorders, the aspect of parenting most strongly related to conduct problems depended on whether the boys also had callous-unemotional traits (Pasalich, Dadds, Hawes, & Brennan, 2011). For boys high in callous-unemotional traits, parental warmth was more strongly related to lower levels of conduct problems, whereas for boys lower in callous-unemotional traits, coercive parenting was more strongly related to higher levels of conduct problems. Similarly, other research has reported that, for children who are indifferent to parental discipline, the affective quality of the parent-child relationship (in terms of qualities such as affection, intimacy, and nurturance) relates more strongly to children's conduct problems (Schneider, Cavell, & Hughes, 2003). Results from the present study, in conjunction with this previous research, suggest the need for clinicians to consider jointly a constellation of behavioral and affective aspects of parent-child relationships as well as characteristics of individual children in devising treatment plans for working with family systems to improve children's behavioral and psychological adjustment. Furthermore, clinicians should be mindful of the cultural context in which families are situated because perceptions regarding appropriate parenting (Lansford & Deater-Deckard, 2012) and the likelihood of clinic referrals for particular behavioral and emotional problems (e.g., Weisz et al., 1987) differ across countries.

### Conclusions

Corporal punishment varies widely across countries. In the eight countries involved in the present study, overall effects showed that corporal punishment was related to increases, and maternal warmth was related to decreases, in children's anxiety and aggression over time. In addition, maternal warmth moderated the effect of corporal punishment in some countries, with increases in anxiety over time for children whose mothers were high in both warmth and corporal punishment. Variation around these overall effects illustrates the importance of comparing families from diverse backgrounds to broaden understanding of parenting and children's adjustment in different national and cultural contexts.

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## REFERENCES

- Achenbach, T. M. (1991). *Integrative guide for the 1991 CBCL 14-18, YSR, and TRF Profiles*. Burlington: University of Vermont, Department of Psychiatry.
- Achenbach, T. M. (2004). Cross-cultural perspectives on developmental psychopathology. In U. P. Gielen & J. Roopnarine (Eds.), *Childhood and adolescence: Cross-cultural perspectives and applications* (pp. 411-429). Westport, CT: Praeger.
- Alampay, L. P., & Jocson, R. M. (2011). Attributions and attitudes of mothers and fathers in the Philippines. *Parenting: Science and Practice, 11*, 163-176. doi:10.1080/15295192.2011.585564
- Al-Hassan, S., & Takash, H. (2011). Attributions and attitudes of mothers and fathers in Jordan. *Parenting: Science and Practice, 11*, 142-151. doi:10.1080/15295192.2011.585559
- Arnett, J. J. (2008). The neglected 95%: Why American psychology needs to become less American. *American Psychologist, 63*, 602-614. doi:10.1037/0003-066X.63.7.602
- Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs, 75*, 43-88.
- Baumrind, D., Larzelere, R. E., & Cowan, P. A. (2002). Ordinary physical punishment: Is it harmful? Comment on Gershoff (2002). *Psychological Bulletin, 128*, 580-589. doi:10.1037/0033-2909.128.4.580
- Bombi, A. S., Pastorelli, C., Bacchini, D., Di Giunta, L., Miranda, M., & Zelli, Z. (2011). Attributions and attitudes of mothers and fathers in Italy. *Parenting: Science and Practice, 11*, 129-141. doi:10.1080/15295192.2011.585557
- Bonett, D. G. (2012). Replication-extension studies. *Current Directions in Psychological Science, 21*, 409-412. doi:10.1177/0963721412459512
- Bornstein, M. H. (Ed.). (2010). *The handbook of cultural developmental science. Part 1. Domains of development across cultures. Part 2. Development in different places on earth*. New York, NY: Psychology Press.
- Bornstein, M. H., Hahn, C.-S., Suwalsky, J. T. D., & Haynes, O. M. (2002). Socioeconomic status, parenting, and child development: The Hollingshead Four-Factor Index of Social Status and the Socioeconomic Index of Occupations. In M. H. Bornstein & R. H. Bradley (Eds.), *Socioeconomic status, parenting, and child development* (pp. 29-82). Mahwah, NJ: Erlbaum.
- Bornstein, M. H., Putnick, D. L., & Lansford, J. E. (2011). Parenting attributions and attitudes in cross-cultural perspective. *Parenting: Science and Practice, 11*, 214-237. doi:10.1080/15295192.2011.585568
- Card, N. A. (Ed.). (2012). *Applied meta-analysis for social science research*. New York, NY: Guilford.
- Chang, L., Chen, B.-B., & Ji, L. Q. (2011). Parenting attributions and attitudes of mothers and fathers in China. *Parenting: Science and Practice, 11*, 102-115. doi:10.1080/15295192.2011.585553
- Child Trends. (2009). Attitudes towards spanking. Retrieved from [www.childtrendsdatabank.org/?q=node/187](http://www.childtrendsdatabank.org/?q=node/187)
- Crijnen, A. A. M., Achenbach, T. M., & Verhulst, F. C. (1997). Comparisons of problems reported by parents of children in 12 cultures: Total problems, externalizing, and internalizing. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*, 1269-1277. doi:10.1097/00004583-199709000-00020
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113*, 487-496. doi:10.1037/0033-2909.113.3.487
- Deater-Deckard, K., Ivy, L., & Petrill, S. A. (2006). Maternal warmth moderates the link between physical punishment and child externalizing problems: A parent-offspring behavioral genetic analysis. *Parenting: Science and Practice, 6*, 59-78. doi:10.1207/s15327922par0601\_3
- Deater-Deckard, K., Lansford, J. E., Malone, P. S., Alampay, L. P., Sorbring, E., Bacchini, D., . . . Al-Hassan, S. M. (2011). The association between parental warmth and control in thirteen cultural groups. *Journal of Family Psychology, 25*, 790-794. doi:10.1037/a0025120
- De Wolff, M., & van IJzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development, 68*, 571-591. doi:10.2307/1132107
- Di Giunta, L., Uribe Tirado, L. M., & Márquez, L. A. A. (2011). Attributions and attitudes of mothers and fathers in Colombia. *Parenting: Science and Practice, 11*, 116-128. doi:10.1080/15295192.2011.585554
- Durrant, J. E. (1999). Evaluating the success of Sweden's corporal punishment ban. *Child Abuse and Neglect, 23*, 435-448. doi:10.1016/S0145-2134(99)00021-6
- Erkut, S. (2010). Developing multiple language versions of instruments for intercultural research. *Child Development Perspectives, 4*, 19-24. doi:10.1111/j.1750-8606.2009.00111.x
- Germán, M., Gonzales, N. A., McClain, D. B., Dumka, L., & Millsap, R. (2013). Maternal warmth moderates the link between harsh discipline and later externalizing behaviors for Mexican American adolescents. *Parenting: Science and Practice, 13*, 169-177. doi:10.1080/15295192.2013.756353
- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin, 128*, 539-579. doi:10.1037/0033-2909.128.4.539
- Gershoff, E. T., Grogan-Kaylor, A., Lansford, J. E., Chang, L., Zelli, A., Deater-Deckard, K., & Dodge, K. A. (2010). Parent discipline practices in an international sample: Associations with child behaviors and moderation by perceived normativeness. *Child Development, 81*, 487-502. doi:10.1111/j.1467-8624.2009.01409.x
- Gracia, E., Lila, M. S., & Musitu, G. (2005). Parental rejection and psychological and social adjustment of children. *Salud Mental, 28*, 73-81.
- Grusec, J. E., & Goodnow, J. J. (1994). Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology, 30*, 4-19. doi:10.1037/0012-1649.30.1.4
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences, 33*, 1-75. doi:10.1017/S0140525X0999152X
- Huh, D., Tristan, J., Wade, E., & Stice, E. (2006). Does problem behavior elicit poor parenting?: A prospective study of adolescent girls. *Journal of Adolescent Research, 21*, 185-204. doi:10.1177/0743558405285462
- Kariger, P., Frongillo, E. A., Engle, P., Rebello Britto, P. M., Sywulka, S. M., & Menon, P. (2012). Indicators of family care for development for use with multi-country surveys. *Journal of Health, Population, and Nutrition, 30*, 472-486.
- Khaleque, A., & Rohner, R. P. (2002). Reliability of measures assessing the pancultural association between perceived parental acceptance-rejection and psychological adjustment: A meta-analysis of cross-cultural and intracultural studies. *Journal of Cross-Cultural Psychology, 33*, 87-99. doi:10.1177/0022022102033001006

- Klein, A., & Moosbrugger, H. (2000). Maximum likelihood estimation of latent interaction effects with the LMS method. *Psychometrika*, *65*, 457–474. doi:10.1007/BF02296338
- Kochanska, G., Barry, R. A., Stellern, S. A., & O'Bleness, J. J. (2009). Early attachment organization moderates the parent-child mutually coercive pathway to children's antisocial conduct. *Child Development*, *80*, 1288–1300. doi:10.1111/j.1467-8624.2009.01332.x
- Lansford, J. E., Alampay, L., Bacchini, D., Bombi, A. S., Bornstein, M. H., Chang, L., ... Zelli, A. (2010). Corporal punishment of children in nine countries as a function of child gender and parent gender. *International Journal of Pediatrics*, *2010*, 1–12.
- Lansford, J. E., & Bornstein, M. H. (2011). Parenting attributions and attitudes in diverse cultural contexts: Introduction to the special issue. *Parenting: Science and Practice*, *11*, 87–101. doi:10.1080/15295192.2011.585552
- Lansford, J. E., Bornstein, M. H., Dodge, K. A., Skinner, A. T., Putnick, D. L., & Deater-Deckard, K. (2011). Attributions and attitudes of mothers and fathers in the United States. *Parenting: Science and Practice*, *11*, 199–213. doi:10.1080/15295192.2011.585567
- Lansford, J. E., Chang, L., Dodge, K. A., Malone, P. S., Oburu, P., Palmérus, K., ... Quinn, N. (2005). Physical discipline and children's adjustment: Cultural normativeness as a moderator. *Child Development*, *76*, 1234–1246. doi:10.1111/j.1467-8624.2005.00847.x
- Lansford, J. E., Criss, M. M., Laird, R. D., Shaw, D. S., Pettit, G. S., Bates, J. E., & Dodge, K. A. (2011). Reciprocal relations between parents' physical discipline and children's externalizing behavior during middle childhood and adolescence. *Development and Psychopathology*, *23*, 225–238. doi:10.1017/S0954579410000751
- Lansford, J. E., & Deater-Deckard, K. (2012). Childrearing discipline and violence in developing countries. *Child Development*, *83*, 62–75. doi:10.1111/j.1467-8624.2011.01676.x
- Lansford, J. E., & Dodge, K. A. (2008). Cultural norms for adult corporal punishment of children and societal rates of endorsement and use of violence. *Parenting: Science and Practice*, *8*, 257–270. doi:10.1080/15295190802204843
- Lansford, J. E., Malone, P. S., Dodge, K. A., Chang, L., Chaudhary, N., Tapanya, S., ... Deater-Deckard, K. (2010). Children's perceptions of maternal hostility as a mediator of the link between discipline and children's adjustment in four countries. *International Journal of Behavioral Development*, *34*, 452–461. doi:10.1177/0165025409354933
- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In P. H. Mussen & E. M. Hetherington (Eds.), *Handbook of child psychology: Vol. IV. Socialization, personality, and social development* (4th ed., pp. 1–101). New York, NY: Wiley.
- MacKenzie, M. J., Nicklas, E., Brooks-Gunn, J., & Waldfogel, J. (2011). Who spansks infants and toddlers? Evidence from the Fragile Families and Child Well-Being Study. *Children and Youth Services Review*, *33*, 1364–1373. doi:10.1016/j.childyouth.2011.04.007
- McKee, L., Roland, E., Coffelt, N., Olson, A. L., Forehand, R., Massari, C., ... Zens, M. S. (2007). Harsh parental discipline and child problem behaviors: The roles of positive parenting and gender. *Journal of Family Violence* *22*, 187–196. doi:10.1007/s10896-007-9070-6
- McLoyd, V. C., & Smith, J. (2002). Physical discipline and behavior problems in African American, European American and Latino children: Emotional support as a moderator. *Journal of Marriage and the Family*, *64*, 40–53. doi:10.1111/j.1741-3737.2002.00040.x
- Muthén, B., & Asparouhov, T. (2003, March 5). *Modeling interactions between latent and observed continuous variables using maximum-likelihood estimation in Mplus* (Version 1).
- Muthén, L. K., & Muthén, B. O. (2012). *Mplus user's guide* (7th ed.). Los Angeles, CA: Muthén & Muthén.
- Oburu, P. O. (2011). Attributions and attitudes of mothers and fathers in Kenya. *Parenting: Science and Practice*, *11*, 152–162. doi:10.1080/15295192.2011.585561
- Pasalich, D. S., Dadds, M. R., Hawes, D. J., & Brennan, J. (2011). Do callous-unemotional traits moderate the relative importance of parental coercion versus warmth in child conduct problems? An observational study. *Journal of Child Psychology and Psychiatry*, *52*, 1308–1315. doi:10.1111/j.1469-7610.2011.02435.x
- Patterson, G. R., & Fisher, P. A. (2002). Recent developments in our understanding of parenting: Bidirectional effects, causal models, and the search for parsimony. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 5. Practical issues in parenting* (2nd ed., pp. 59–88). Mahwah, NJ: Erlbaum.
- Rohner, R. P. (2005). Parental Acceptance-Rejection Questionnaire (PARQ): Test manual. In R. P. Rohner & A. Khaleque (Eds.), *Handbook for the study of parental acceptance and rejection* (4th ed., pp. 43–106). Storrs: Center for the Study of Parental Acceptance and Rejection, University of Connecticut.
- Rohner, R. P., Bourque, S. L., & Elordi, C. A. (1996). Children's perceptions of corporal punishment, caretaker acceptance, and psychological adjustment in a poor, biracial southern community. *Journal of Marriage and the Family*, *58*, 842–852. doi:10.2307/353974
- Rohner, R. P., Khaleque, A., & Cournoyer, D. E. (2005). Parental acceptance-rejection theory, methods, evidence, and implications. In R. P. Rohner & A. Khaleque (Eds.), *Handbook for the study of parental acceptance and rejection* (4th ed., pp. 1–35). Storrs: Center for the Study of Parental Acceptance and Rejection, University of Connecticut.
- Sadowski, L. S., Hunter, W. M., Bangdiwala, S. E., & Munoz, S. R. (2004). The World Studies of Abuse in the Family Environment: A model of a multi-national study of family violence. *Injury Control and Safety Promotion*, *11*, 81–90.
- Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods*, *7*, 147–177. doi:10.1037/1082-989X.7.2.147
- Schneider, W. J., Cavell, T. A., & Hughes, H. N. (2003). A sense of containment: Potential moderator of the relation between parenting practices and children's externalizing behaviors. *Development and Psychopathology*, *15*, 95–117. doi:10.1017/S0954579403000063
- Simons, R. L., Wu, C., Lin, K., Gordon, L. C., & Conger, R. D. (2000). A cross-cultural examination of the link between corporal punishment and adolescent antisocial behavior. *Criminology*, *38*, 47–79.
- Sorbring, E., & Gurdal, S. (2011). Attributions and attitudes of mothers and fathers in Sweden. *Parenting: Science and Practice*, *11*, 177–189. doi:10.1080/15295192.2011.585565
- Stacks, A. M., Oshio, T., Gerard, J., & Roe, J. (2009). The moderating effect of parental warmth on the association between spanking and child aggression: A longitudinal approach. *Infant and Child Development*, *18*, 178–194. doi:10.1002/icd.596
- Straus, M. A., Hamby, S. L., Findelore, D., Moore, D. W., & Runyan, D. (1998). Identification of child maltreatment with the Parent-Child Conflict Tactics Scales: Development and psychometric data for a national sample of American parents. *Child Abuse and Neglect*, *22*, 249–270.
- Straus, M. A., & Stewart, J. H. (1999). Corporal punishment by American parents: National data on prevalence, chronicity, severity, and duration, in relation to child and family characteristics. *Clinical Child and Family Psychology Review*, *2*, 55–70. doi:10.1023/A:1021891529770
- UNICEF Division of Policy and Planning. (2006). *Multiple Indicator Cluster Survey manual 2005: Monitoring the situation of children and women*. New York, NY: UNICEF.
- United Nations. (1989). *United Nations Convention on the Rights of the Child*. Geneva, Washington, DC: Office of the United Nations High



- Commissioner for Human Rights. Available from <http://www.unhchr.ch/html/menu3/b/k2crc.htm>
- United Nations Committee on the Rights of the Child. (2007). General comment number 8: The right of the child to protection from corporal punishment and other cruel or degrading forms of punishment. Available from <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G07/407/71/PDF/G0740771.pdf?OpenElement>
- United Nations Development Program. (2009). Human development reports. Retrieved from <http://hdr.undp.org/en/statistics/indices/hdi>
- Weisz, J. R., Suwanlert, S., Chaiyasit, W., & Walter, B. R. (1987). Over- and undercontrolled referral problems among children and adolescents from Thailand and the United States: The wat and wai of cultural differences. *Journal of Consulting and Clinical Psychology, 55*, 719–726. doi:10.1037/0022-006X.55.5.719
- Whipple, E. E., & Richey, C. A. (1997). Crossing the line from physical discipline to child abuse: How much is too much? *Child Abuse and Neglect, 21*, 431–444. doi:10.1016/S0145-2134(97)00004-5