A CROSS-CULTURAL EXAMINATION OF THE LINK BETWEEN CORPORAL PUNISHMENT AND ADOLESCENT ANTISOCIAL BEHAVIOR*

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Several studies with older children have reported a positive relationship between parental use of corporal punishment and child conduct problems. This has lead some social scientists to conclude that physical discipline fosters antisocial behavior. In an attempt to avoid the methodological difficulties that have plagued past research on this issue, the present study used a proportional measure of corporal punishment, controlled for earlier behavior problems and other dimensions of parenting, and tested for interaction and curvilinear effects. The analyses were performed using a sample of Iowa families that displayed moderate use of corporal punishment and a Taiwanese sample that demonstrated more frequent and severe use of physical discipline, especially by fathers. For both samples, level of parental warmth/control (i.e., support, monitoring, and inductive reasoning) was the strongest predictor of adolescent conduct problems. There was little evidence of a relationship between corporal punishment and conduct problems for

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the Iowa sample. For the Taiwanese families, corporal punishment was unrelated to conduct problems when mothers were high on warmth/control, but positively associated with conduct problems when they were low on warmth/control. An interaction between corporal punishment and warmth/control was found for Taiwanese fathers as well. For these fathers, there was also evidence of a curvilinear relationship, with the association between corporal punishment and conduct problems becoming much stronger at extreme levels of corporal punishment. Overall, the results are consistent with the hypothesis that it is when parents engage in severe forms of corporal punishment, or administer physical discipline in the absence of parental warmth and involvement, that children feel angry and unjustly treated, defy parental authority, and engage in antisocial behavior.

Most contemporary criminological theories agree that effective parenting decreases the probability of delinquent behavior (Conger and Simons, 1997; Gottfredson and Hirschi, 1990; Moffitt, 1997; Patterson et al., 1992; Sampson and Laub, 1993; Thornberry, 1987). These theories are also in agreement regarding the components of effective parenting. Competent parents show high levels of warmth and support, articulate standards for behavior, monitor their child's behavior, and engage in inductive reasoning and consistent discipline when infractions occur. This style of parenting is often labeled "authoritative parenting" (Maccoby, 1992). Decades of research by social scientists (see Maccoby, 1992; Maccoby and Martin, 1983; Patterson et al., 1992; Peterson and Rollins, 1987), including criminologists (see Glueck and Glueck, 1962; Gottfredson and Hirschi, 1990; Loeber and LeBlanc, 1990; McCord and McCord, 1959; Sampson and Laub, 1993; Simons et al., 1998), has established that this style of parenting promotes positive child development and the absence of these parenting behaviors increases the chances that a child will engage in aggressive and delinquent behavior. This conclusion is based on findings from numerous studies, is generally accepted by the social scientific community, and has been widely used by prevention specialists concerned with designing instructional materials and classes for parents.

In recent years, some researchers have argued that there is convincing evidence for another generalization regarding the effect of parental behavior on child conduct problems. They contend that research has confirmed that children subjected to corporal punishment are at risk for delinquent and criminal behavior (Cohen and Brooks, 1994; McCord, 1991, 1997; Straus, 1991; Straus, 1994; Straus and Donnelly, 1994; Straus et al., 1997). Corporal punishment has this effect, they argue, because parents engaging in this behavior inadvertently teach their children that aggression and coercion are legitimate approaches to solving problems. Thus, physical

punishment is seen as having a paradoxical effect. Instead of deterring misbehavior, it amplifies a child's antisocial tendencies. These researchers consider exposure to physical punishment during childhood to be a major cause of adolescent delinquency and adult crime and aggression (Cohen and Brooks, 1994; McCord, 1991, 1997; Straus, 1991; Straus and Donnelly, 1994). Some of them believe that scientific support for this position is so strong that the U.S. Congress should follow the example of some Scandinavian countries and pass legislation prohibiting adults from utilizing corporal methods to discipline children (Hyman, 1990; Straus, 1994).

We are sympathetic to concerns over the use of corporal punishment. We have moral reservations about parents hitting their children and believe that parents should strive to use less coercive forms of punishment. It is clear, however, that many parents take a different position. Several studies have reported that the majority of American parents sometimes use corporal punishment to discipline their children (Straus et al., 1980; Straus and Gelles, 1986). Although we take ethical exception to this approach to punishment, we do not believe that current evidence warrants viewing these parents as misguided and ineffective, and it is certainly premature to suggest that their approach to parenting be criminalized. Past studies have been fraught with methodological weaknesses that limit the extent to which firm conclusions can be drawn regarding the link between corporal punishment and negative child outcomes. This body of research does suggest, however, that social scientists have often oversimplified the case against corporal punishment.

To begin, the vast majority of past studies were based on Anglo-American families living in the United States, which is a major limitation as the effects of corporal punishment may differ by cultural context. The dominant culture in the United States maintains that healthy child development requires an environment that encourages individuality and freedom of expression. This ethic suggests that parents should be nurturing, but not too controlling (Bronfrenbrenner, 1985; Wilson, 1983). However, other cultural traditions provide a different perspective on children and parenting. Chinese culture, for example, stresses the importance of child obedience and emphasizes the importance of strict, controlling parenting practices to achieve this goal (Chiu, 1987; Kriger and Kroes, 1972; Lin and Fu, 1990; Yee, 1983). Although past research has established that authoritarian parenting is associated with low school achievement for U.S. children, such parenting practices are related to high levels of achievement for Chinese students (Dornbusch et al., 1987; Steinberg et al., 1992). Chao (1994) argues that this contradictory finding is obtained because American children view high parental control as illegitimate and unfair, whereas Chinese children perceive these parenting behaviors as an indication of parental involvement and concern.

A similar cultural difference may operate for corporal punishment. It may be that Anglo-American children tend to consider physical forms of punishment as indicators of parental rejection, and they respond by resisting parental attempts to control their behavior. On the other hand, corporal punishment may operate as an effective deterrent in cultures such as the Chinese, where such parenting practices are accepted as expressions of love and concern. Consonant with the idea that the effects of corporal punishment differ by cultural setting, some studies (see Deater-Deckard and Dodge, 1997; Gunnoe and Mariner, 1997) have reported that frequency of corporal punishment is inversely related to delinquency among African-American children living in disadvantaged neighborhoods. There is also evidence that harsh discipline is more common among African-American than Anglo-American families (Hampton et al., 1989; Straus, 1994). Given this subcultural difference, it may be that African-American children are more likely than Anglo-American children to view corporal punishment as a legitimate approach to discipline.

In addition to cultural differences, the effect of corporal punishment may differ by age (Larzelere, 1996). Clinical studies with preschoolers or kindergarteners have found that nonabusive corporal punishment (i.e., spanking) increases compliance, as well as the effectiveness of time-out and reasoning (Bean and Roberts, 1981; Bernal et al., 1968; Larzelere and Merenda, 1994; Larzelere et al., 1995; Roberts, 1982, 1988; Roberts and Powers, 1990; Sather, 1992). Although studies with young children usually report positive effects, those that focus on parental behavior during late childhood or early adolescence tend to find either no association between corporal punishment and deviant behavior (MacIntyre and Cantrell, 1995; McCord, 1988) or a positive relationship between the two phenomena (Gelles and Straus, 1979; Lieh-Mak et al., 1983; Hemenway et al., 1994; Straus, 1991; Tennant et al., 1975).

Based on this pattern of findings, one might infer that corporal punishment enhances compliance among preschoolers, whereas it is not a deterrent and often increases the probability of antisocial behavior when administered to older children. Although this conclusion may well turn out to be true, it would be premature to adopt the latter portion of this position because studies reporting a positive relationship between corporal punishment and deviant behavior among older children usually suffer from four rather serious methodological deficiencies.

First, most studies showing a positive association between exposure to corporal punishment and child or adult antisocial behavior fail to take into account the effects of other dimensions of parenting (Simons et al., 1994). As noted earlier, an uncaring attitude, poor supervision, inconsistent discipline, and a failure to explain moral principles all serve to increase the probability that a child will grow to engage in delinquent and criminal

behavior (Gottfredson and Hirschi, 1990; Hirschi, 1969; Patterson et al., 1992; Sampson and Laub, 1993; Simons et al., 1998; Wilson and Herrnstein, 1985). Importantly, such inept parenting practices tend to be correlated with the use of corporal punishment (Simons et al., 1994). Thus, when researchers report a correlation between parental use of physical punishment and offspring involvement in antisocial behavior, it may be that the association is spurious because of the correlation of both of these variables with factors such as parental warmth, monitoring, and inductive reasoning. Although most research has ignored this possibility, studies that include a variety of parenting behaviors usually find that the positive correlation between corporal punishment and delinquent or criminal behavior is eliminated once the effects of these other dimensions of effective parenting are taken into account (Caroll, 1977; McCord, 1991; Simons et al., 1994). The few studies that continue to find an association between corporal punishment and child conduct problems after controlling for other dimensions of parenting (e.g., Cohen and Brook, 1994, Straus et al., 1997) control for only a limited set of parental behaviors. Although they control for the effects of parental warmth, they fail to control for other components of effective parenting, such as monitoring and inductive reasoning.

Further, it may be that the consequences of corporal punishment depend on whether the parent exhibits these various elements of effective parenting (Deater-Deckard and Dodge, 1997). It may be, for example, that parental warmth, monitoring, and inductive reasoning serve to moderate the potentially negative effects of corporal punishment, whereas physical discipline fosters antisocial behavior in the absence of these components of effective parenting. Deater-Deckard and Dodge (1997) and McCord (1991) have reported some support for this proposition. Thus taking into account the effects of other important dimensions of parenting requires that the researcher do more than introduce statistical controls. In addition, the researcher must test for a statistical interaction between corporal punishment and the various aspects of parenting that past research has shown to influence child development.

A second methodological difficulty concerns the fact that most studies fail to recognize the reciprocal relationship that exists between parent and child behavior. Although it is true that ineffective parenting increases the chances that a child will engage in deviant behavior, it is also true that aggressive, oppositional children influence their parents to adopt ineffective parenting practices (see Lytton, 1990; Patterson et al., 1992; Peterson and Rollins, 1987). Given this finding, a positive correlation between corporal punishment and child antisocial behavior may simply mean that parents often resort to corporal punishment when they have a difficult child

(Larzelere, 1996). Even longitudinal studies that assess antisocial behavior several months or years after exposure to corporal punishment cannot preclude this possibility. In order to establish that physical punishment promotes antisocial behavior, the researcher must show that corporal punishment predicts delinquent or criminal behavior after controlling for the amount of oppositional and defiant behavior that the child displays toward the parent.

Third, those experts who argue that corporal punishment fosters antisocial behavior usually do not distinguish between the consequences of moderate use of physical punishment and more extreme forms that might be considered abusive (Deater-Deckard and Dodge, 1997). Stated in statistical terms, the relationship between corporal punishment and antisocial behavior may be curvilinear. Adolescents may manifest few, if any, negative effects when physical discipline is infrequent, especially if such punishment is administered by parents who are otherwise warm and supportive. Parents utilizing corporal punishment on a regular basis, on the other hand, may produce strong feelings of injustice, anger, and hostility that serve to amplify the child's antisocial behavior. Social psychological studies have shown that severe punishment often produces a boomerang effect as the victim resists or retaliates against the perpetrator (Homans, 1974; Walster et al., 1978). Thus, harsh or relentless use of corporal punishment might be expected to foster the negative results described by anticorporal punishment researchers.

Consistent with the curvilinearity hypothesis, there is evidence that physically abused children are at risk for delinquency and crime (Alfaro, 1981; Widom, 1989, Zingraff et al., 1993). Also, the few studies that have taken into account severity of corporal punishment have found that individuals exposed to moderate levels of physical punishment are no more likely to engage in antisocial behavior than those with parents who did not use corporal punishment, whereas persons who experienced severe physical punishment show significantly higher levels of antisocial behavior than those who received either no or moderate corporal punishment (Bryan and Freed, 1982; Caesar, 1988; Deater-Deckard and Dodge, 1997; Holmes and Robins, 1988). Furthermore, although some studies report that even low levels of corporal punishment increase the probability of delinquent behavior, these same studies show the risk to be much greater for persons exposed to high levels of corporal punishment (Straus, 1991; Straus et al., 1998).

The last methodological problem involves the manner in which use of corporal punishment is measured. Most studies utilize a frequency measure in which the researcher assesses the number of times per week, month, or year that the parent administers some type of physical discipline to the child (e.g., McCord, 1991; Straus, 1991). The problem with such

measures is that they confound discipline with child infractions (Larzelere et al., 1996). Parents with difficult children engage in disciplinary acts more frequently than those with conforming children. Thus, when a frequency measure is used to assess parental discipline, all types of disciplinary strategies (e.g., verbal reprimand, inductive reasoning, time-out, corporal punishment) tend to be positively associated with frequency of conduct problems (Larzelere et al., 1996), suggesting the absurd conclusion that discipline of any sort amplifies antisocial behavior. One can avoid this methodological problem by assessing the *proportion* of time that the parent employs a particular disciplinary strategy when the child misbehaves. Instead of focusing on the frequency of corporal punishment, the researcher measures how often the parent resorts to physical punishments when some type of discipline is required.

The present study attempts to circumvent these various methodological difficulties. We examine the degree to which any negative effects of corporal punishment are countered or moderated by other dimensions of parenting, such as warmth, monitoring, and inductive reasoning. Our investigation considers the relationship between adolescent exposure to corporal punishment and involvement in delinquent behavior while controlling for the extent to which the child displays oppositional/defiant behavior in family interactions. We use a proportional, rather than a frequency, measure of corporal punishment. Finally, we use samples from both Iowa and Taiwan to test for cultural differences in the effects of corporal punishment.

Although families in our Iowa sample sometimes resort to physical forms of discipline, frequent or severe corporal punishment is rare. Corporal punishment is used more frequently and tends to be more severe among the families in our Taiwan sample, which is consistent with past studies that have reported that Chinese parents tend to favor strict, controlling approaches to parenting (Chao, 1994; Chiu, 1987; Kriger and Kroes, 1972; Lin and Fu, 1990; Steinberg et al., 1992; Yee, 1983). Although both Chinese mothers and fathers tend to be vigilant, demanding parents, the culture specifies a division of labor in which mothers are expected to make great sacrifices to monitor, nurture, and train their children while fathers serve as stern disciplinarians (Chao, 1994). Chinese mothers are not adverse to using corporal punishment, but it is Chinese fathers who have a reputation for harsh disciplinary practices.

These cultural differences in parenting allow us to examine the extent to which the consequences of corporal punishment are different in a setting where such parental behavior is rather infrequent versus where it is widely accepted. Further, these cultural differences in the use of corporal punishment allow us to test the curvilinearity hypothesis. If it is persistent use of physical discipline that fosters antisocial behavior, no relationship should

exist between physical punishment and delinquency for the Iowa sample as these parents show only moderate levels of corporal punishment. A curvilinear relationship between these two variables would be expected, however, for the Taiwan sample because many of the parents regularly utilize corporal punishment with their children. This relationship is most likely to be present for Taiwan fathers, as they are most apt to use corporal methods when administering discipline.

METHODS AND PROCEDURES

SAMPLES

The Iowa sample consisted of 451 two-parent families recruited through the cohort of all seventh-grade students, male and female, in eight counties in North Central Iowa, enrolled in school during winter and spring 1989. Seventy-eight percent of the eligible families agreed to participate in the study, which is comparable with the response rates reported by other studies that have attempted to recruit multiple family members (Capaldi and Patterson, 1987).

The families in the sample lived on farms (about one-third) or in small towns. All of the families were Anglo-American, and annual income ranged from $0 to $135,000, with a mean of $29,642. Fathers' education ranged from 8 to 20 years, with a mean of 13.5 years and mothers' education ranged from 8 to 18 years, with a mean of 13.4 years. The fathers ranged in age from 31 to 68, with a median of 40 years; mothers' ages ranged from 29 to 53, with a median of 38 years. Because families of less than four were excluded from the sampling frame, the families were larger on average than what would be expected from a general population survey. Families ranged from 4 to 13 members, with an average of 4.9 members.

A two-stage cluster approach was used to generate a sample of seventh graders living in Taipei, Taiwan. The first stage involved selecting 2 to 4 schools from each of the 12 Taipei school districts. The number of schools selected from each district was proportional to the number of schools in the district. In the second stage, one or two classes were selected within each school, with the number of classes selected being dependent on the size of the school. All of the students in the selected classes were included in the sample. This strategy resulted in a sample of 1,434 students, representing 44 classes from 33 schools.

Similar data collection procedures were employed with both the Iowa and Taiwan samples. Interviewers visited the adolescents and their families in their homes. The parents responded to questionnaires that included

items regarding the behavior of their children, and the adolescents completed questionnaires that included items regarding the behavior of their parents as well as their own involvement in antisocial behavior.

Comparison of the two samples indicated that the Taipei parents were slightly older than the Iowa parents. The average age of the mothers was 41 in Taipei and 38 in Iowa, and fathers averaged 45 years of age in Taipei and 40 in Iowa. The Iowa parents were more likely to have completed at least some college (25% of fathers and 15% of mothers from Taipei versus 61% of fathers and 54% of mothers from Iowa), although approximately the same proportion of persons in each sample had graduated from college (4% of fathers and 3% of mothers). Occupational classification indicated, however, that the Iowa parents were more likely to be employed at working class jobs. Only 35% of Iowa fathers held a professonal, managerial, or technical position, whereas this was true for 50% of the Taipei fathers. Consistent with this finding, the Taipei families reported higher incomes than the Iowa families. Monthly income for the Iowa families reporting income ranged from $1,500 to $11,000, with an average of $1,850, whereas the range was $0 to $20,000, with an average of $2,494, for the Taipei families. The Taipei families also had more savings. On average, the Iowa families had a savings of $1,896 and savings for the Taipei families averaged $8,459. Although the Taipei sample had more high-income families than the Iowa sample, the two groups had similar proportions of low-income families. An identical percent of families (11.5%) in the two samples reported that they made less than $1,000 a month. These various comparisons indicate that the Iowa sample is more homogeneous with regard to social class than the Taipei sample. The Iowa sample is in large part a working class sample, whereas the Taipei sample represents the full range of social classes.

MEASUREMENT

The same measures of constructs were utilized for both the Iowa and Taiwan samples.

Conduct Problems

This construct concerned the extent to which adolescents had engaged in a wide variety of delinquent acts, which was assessed through the use of a *delinquency checklist* adapted from the National Youth Survey (Elliott et al., 1985; Elliott et al., 1989). The instrument asked respondents to indicate whether they had engaged in any of 23 delinquent activities during the preceding year. The acts varied from relatively minor offenses, such as skipping school, to more serious offenses such as attacking someone with a weapon, selling drugs, or stealing something worth more than $25. A

dichotomous response format (no = 0; yes = 1) was used for each item, and responses to the various items were summed to obtain a conduct disorder score for each respondent.

Although the analyses presented below are based on this general measure of delinquent behavior, it should be noted that we also performed the analyses using a subscale of items consisting of only aggressive acts. We failed to find any evidence that the effects of corporal punishment are different for aggressive versus nonaggressive delinquency. Indeed, although the pattern of results was roughly the same regardless of which measure was used, the coefficients obtained using the aggression subscale were generally smaller in magnitude and less significant than those obtained with the full instrument.

Corporal Punishment

The adolescents used a three-item scale (Simons et al., 1994) to report the extent to which each of their parents uses corporal punishment when administering discipline. Although parent self-reports were available in the Iowa sample, this was not the case for the Taiwan sample. Adolescent reports were used in the present paper so that the analyses for the two samples would be comparable. We do not view this as a problem, however, as children might be expected to provide a more truthful account of the level of corporal punishment within the home than their parents, who may be concerned with creating a favorable impression with the researchers. It should be noted, however, that the results obtained for the Iowa sample when parent reports are used to assess corporal punishment roughly parallel those reported below for adolescent reports. The three items used to form our corporal punishment scale were as follows: (1) How often does your mother (father) spank or slap you when you do something wrong? (2) When punishing you, how often does your mother (father) hit you with a belt, paddle, or something else? (3) When you have spent time with your mother (father) during the previous month, how often did she (he) hit, push, grab, or shove you? The response format for the items ranged along a five-point continuum with 1 = never, 3 = about half the time, and 5 = always. Coefficient alpha for the scale was above .70 for both samples.

The response format for the scale assessed the proportion of time that the parent utilizes corporal punishment when administering discipline. As noted earlier, proportional approaches are preferable to frequency measures (e.g., number of times that the parent spanks per week) as the latter tend to confound discipline with child infractions (Larzelere et al., 1996). When a frequency measure is used to assess parental behavior, all types of disciplinary strategies are likely to be positively associated with frequency of conduct problems. One can only determine the efficacy of a particular

disciplinary strategy, such as corporal punishment, by examining the relationship between the proportion of time that the parent employs the strategy and the frequency of child conduct problems.

The three items used to assess corporal punishment came from two different portions of the questionnaire completed by the adolescents. The first two items were included in a set of scales concerned with quality of parenting. These two items, like the other parenting items, asked the children to report on their parents' typical approach to parenting. The child was not asked to employ a particular time frame. In contrast, the third item used to assess corporal punishment is part of a larger scale designed to assess quality of interaction between the parent and the child. This scale asked the children to report on behavioral interactions that had taken place between the parent and the child within the previous month. The instrument used to assess delinquency, as noted above, asked adolescents to report delinquent behaviors for the prior year. This means that one of the items used to measure our primary explanatory variable, corporal punishment, focused on parenting behaviors that may have occurred subsequent to some of the delinquent acts that comprised our dependent variable. We do not view this as a major problem, however, as past research has shown that use of corporal punishment, like other parenting practices, tends to be relatively stable over time. Also, in other papers (Simons et al., 1995; Simons and Johnson, 1998), we have shown this to be the case for the parents in the Iowa sample used in the present paper, suggesting that it is legitimate to assume that use of corporal punishment during the previous month is indicative of a more general tendency to use physical forms of discipline. Support for this contention is provided by the fact that this item correlates strongly with the other two items in our corporal punishment scale, which ask about the parent's usual disciplinary strategies.

Warmth/Control

Effective parents show warmth and affection, engage in monitoring and supervision, and use inductive reasoning to explain rules and expectations (Amato, 1990; Maccoby and Martin, 1983; Rollins and Thomas, 1979). Adolescents reported on the *warmth/acceptance* of each parent using an 11-item scale adapted from the Parental Rejection Scale developed by the Behavioral Research and Evaluation Corporation (Brennan and Huizinga, 1975). The items focus on the level of support and affection provided by the parent [e.g., lets you know she (he) really cares about you, listens carefully to your point of view, acts loving and affectionate toward you]. The response format ranged from 1 (never) to 7 (always). Adolescents reported on their mother's and father's *monitoring* using a four-item scale [e.g., "How often does your mother (father) know who you are with when

you are away from home?"; see Simons et al., 1994]. The response format for the items ranged from 1 (never) to 5 (always). Finally, adolescents used a five-item scale to report the extent to which their mothers and fathers use *inductive reasoning* when setting rules or administering discipline [e.g., "How often does your mother (father) discipline you by reasoning, explaining, or talking to you about what you did wrong?"; see Simons et al., 1994]. The response format for the items ranged from 1 (never) to 5 (always).

For both the Iowa and Taiwan samples, coefficient alpha was calculated for these scales separately for fathers and mothers by gender of the child doing the reporting. Internal consistency was acceptable in every case. In most cases, alpha ranged from .70 to .80. For both mothers and fathers, the three scales were standardized and summed to form a composite measure of parental involvement. Coefficient alpha for these two measures was above .90 for both samples.

Oppositional/Defiant Behavior

The measure for this construct consisted of father and mother responses to 19 items from the Revised Behavior Problem Checklist (Quay and Peterson, 1983). The items ask parents to indicate the extent to which various behaviors are a problem for their child (0 = no problem; 3 = severe problem). The behaviors include temper tantrums, noncompliance, selfishness, bullying, showing off, talking back, bragging, fighting, cruelty, selfishness, irritability, and blaming others. Previous research has established the reliability and construct validity of the complete Revised Behavior Problem Checklist (Quay and Peterson, 1983), and coefficient alpha for the selected items used in the present study was above .90 for mothers and fathers in both samples. The correlation between mother and father reports was approximately .60. Mother and father scores were summed to form a single parent-report measure.

RESULTS

Tables 1 and 2 show that regardless of gender of child, the Taipei parents scored significantly lower on both warmth and monitoring than the Iowa parents. In both countries, mothers were warmer and engaged in more monitoring than fathers. However, the tables indicate that cultural differences exert more influence than the parent's gender as Iowa fathers exhibited higher levels of warmth and monitoring than mothers from Taiwan. Although parents in the two cultures displayed dissimilar levels of warmth and monitoring, the tables show that they demonstrated roughly comparable levels of inductive reasoning.

Table 1. Comparison of the Parenting Practices of the Taipei (N = 215) and Iowa (N = 727) Parents of Boys

	Mothers			Fathers		
	Taipei	Iowa	t	Taipei	Iowa	t
Parental Involvement						
Warmth	46.98	52.36	7.13	43.57	51.94	9.53
Monitoring	14.61	15.42	3.41	13.72	14.30	3.41
Inductive reasoning	17.74	17.04	–2.11	17.07	17.29	.64

Table 2. Comparison of the Parenting Practices of the Taipei (N = 237) and Iowa (N = 710) Parents of Girls

	Mothers			Fathers		
	Taipei	Iowa	t	Taipei	Iowa	t
Parental Involvement						
Warmth	45.80	54.13	9.96	41.82	52.62	11.39
Monitoring	15.05	16.30	5.91	13.85	14.92	4.13
Inductive reasoning	17.46	17.92	1.41	16.57	17.36	2.15

Historically, Chinese families have favored a strict, authoritarian approach to parenting. Consistent with this cultural tradition, the Taipei parents scored significantly higher on the corporal punishment scale than the Iowa parents. The mean scores for the Taipei parents were 4.22 for girls and 4.69 for boys, whereas the mean scores for the Iowa parents were 3.83 for girls and 4.51 for boys. Although the two groups did not differ in the proportion of time that their discipline involved spanking, the Chinese parents scored significantly higher than the Iowa parents on the use of the most severe forms of corporal punishment. The mean score on the "hit with an object" item for Taipei parents was 1.51 for boys and 1.34 for girls, whereas the mean scores for the Iowa parents were 1.36 and 1.17 for boys and girls, respectively. For the item "pushed, shoved, or grabbed," the mean was 1.72 for the Taiwan boys and 1.46 for Taiwan girls, whereas the means were 1.54 and 1.33 for the Iowa boys and girls, respecctively. In each of these cases, the score for the Taiwanese parents was significantly higher ($p < .05$) than that for the Iowa parents.

Analysis showed that the differences between the two samples of parents was not merely a matter of a higher proportion of Iowa parents never using the various types of corporal punishment. Approximately 65% of the adolescents in both samples reported that their parents never used physical punishment. Rather, the mean differences were a function of the fact that Taiwanese parents who used corporal punishment did so more extensively than the Iowa parents who used corporal punishment. Table 3 shows the percentage of parents from each sample that "almost always" or "always" used some type of corporal punishment when disciplining their child. Again, the differences are especially large for the more severe forms of punishment. The table indicates, for example, that four to six times as many Taiwanese parents as Iowan parents hit with an object virtually every time they discipline.

Table 3. Proportion of Iowan and Taiwanese Parents Who "Almost Always" or "Always" Use Corporal Punishment When Disciplining Their Child

	Mothers			Fathers		
	Taiwan	Iowa	*t*	Taiwan	Iowa	*t*
Sons						
Spank	4.8	3.2	1.07	6.8	3.2	2.20
Hit with Object	5.5	1.4	3.52	8.1	1.4	5.12
Push, Shove, Grab	3.4	.9	2.66	3.2	1.4	1.71
Daughters						
Spank	3.0	.8	2.43	2.7	.8	2.16
Hit with Object	3.3	.4	3.58	2.6	.4	2.91
Push, Shove, Grab	2.0	.8	2.31	1.2	.8	1.22

Table 4 presents the correlation matrix for the Iowa families. Coefficients above the diagonal are for boys, and those below the diagonal are for girls. Oppositional/defiant behavior is associated with conduct problems for boys but not for girls. For boys and girls, conduct problems are negatively related to both mothers' and fathers' warmth/control. Corporal punishment by fathers is associated with conduct problems for boys, whereas corporal punishment by mothers is correlated with girls' conduct problems. Although the latter finding suggests some interesting gender differences in the effects of corporal punishment, it should be noted that for both mothers and fathers corporal punishment shows a positive association with oppositional/defiant behavior and an inverse relationship with parental warmth/control. Thus, it is essential that the effects of these two

variables be controlled prior to drawing conclusions regarding the consequences of corporal punishment.

Table 4. Correlation Matrix for Iowa Sample; Coefficients Above the Diagonal Are for Boys, Whereas Those Below the Diagonal Are for Girls

	1	2	3	4	5	6
1. Conduct Problems	—	.17*	−.18*	.10	−.14*	.15*
2. Oppositional/Defiant	.04	—	−.33*	.25*	−.23*	.28*
3. Mothers' Warmth/Control	−.16*	−.13*	—	−.33*	.65*	−.34*
4. Mothers' Corporal Punishment	.24*	.25*	−.29*	—	−.22*	.55*
5. Fathers' Warmth/Control	−.17*	−.23*	.72*	−.20*	—	−.29*
6. Fathers' Corporal Punishment	.01	.25*	−.33*	.42*	−.39*	—

* $p \leq .05$.

Table 5 provides the correlation matrix for the Taipei sample. Again, coefficients above the diagonal are for boys, and those below the diagonal are for girls. For both boys and girls, mothers' and fathers' level of warmth/control is inversely related to conduct problems, and oppositional/defiant behavior and mothers' and fathers' corporal punishment show positive associations with conduct problems. As in Iowa, however, corporal punishment shows a positive association with oppositional/defiant behavior and an inverse relationship with parental warmth/control, suggesting that the influence of these two variables must be controlled when evaluating the effects of corporal punishment.

Table 5. Correlation Matrix for Taiwan Sample; Coefficients Above the Diagonal Are for Boys, Whereas Those Below the Diagonal Are for Girls

	1	2	3	4	5	6
1. Conduct Problems	—	.13*	−.24*	.15*	−.26*	.21*
2. Oppositional/Defiant	.15*	—	−.11*	.13*	−.13*	.18*
3. Mothers' Warmth/Control	−.25*	−.11*	—	−.31*	.81*	−.24*
4. Mothers' Corporal Punishment	.27*	.10*	−.20*	—	−.23*	.73*
5. Fathers' Warmth/Control	−.26*	−.13*	.81*	−.21*	—	−.31*
6. Fathers' Corporal Punishment	.23*	.17*	−.20*	.59*	−.22*	—

* $p \leq .05$.

Table 6 reports the results of using hierarchical regression with the Iowa

sample. Model 1 involved regressing conduct problems on oppositional/defiant behavior, warmth/control, and corporal punishment. Model 2 added the interaction term formed by multiplying warmth/control by corporal punishment. This model tests whether the effects of corporal punishment vary by level of warmth/control. Finally, model 3 expands the regression equation to include the quadratic formed by squaring the corporal punishment variable. Adding this term allowed us to test the curvilinearity hypothesis.

Table 6. Use of Hierarchical Regression to Examine the Effect of Parental Behavior on Adolescent Conduct Problems in the Iowa Sample

	Oppositional/ Defiant	Warmth/ Control	Corporal Punishment	WC X CP	CP^2	R^2
Boys						
Mothers' Parenting						
Model 1	.12*	−.13*	.02	—	—	.047
Model 2	.13*	−.13*	.04	.03	—	.048
Model 3	.13*	−.12*	.02	.05	.04	.048
Fathers' Parenting						
Model 1	.13*	−.09	.08	—	—	.047
Model 2	.13*	−.09	.08	.01	—	.047
Model 3	.13*	−.09	.05	.01	.05	.048
Girls						
Mothers' Parenting						
Model 1	−.02	−.10	.22*	—	—	.070
Model 2	.01	−.11*	.01	−.31*	—	.123
Model 3	.01	−.10	−.04	−.15	.21	.128
Fathers' Parenting						
Model 1	.02	−.20*	−.08	—	—	.022
Model 2	.01	−.20*	−.02	.08	—	.038
Model 3	.01	−.21*	.03	−.04	−.17	.040

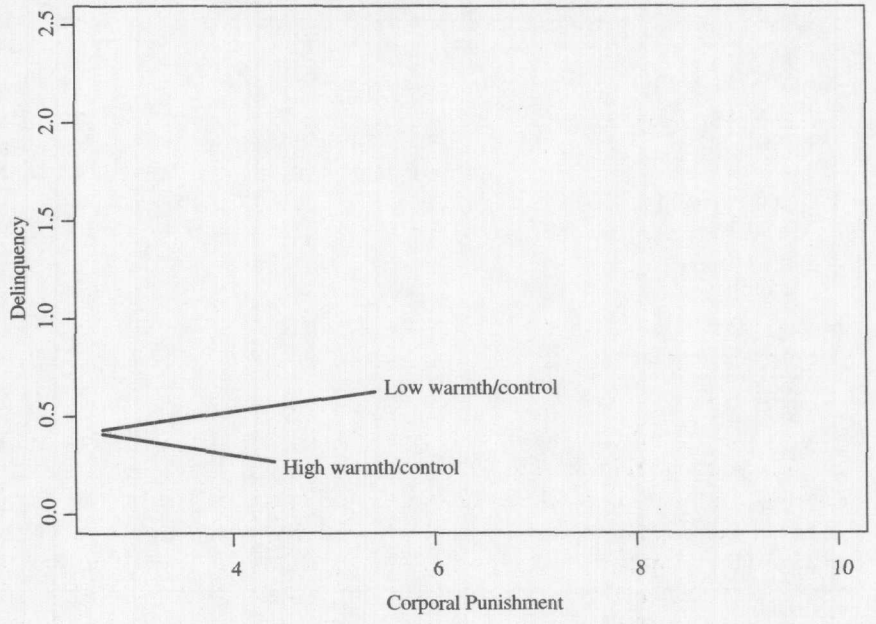
* $p \leq .05$.

For boys, controlling for oppositional/defiant behavior and warmth/control eliminates the relationship between corporal punishment and conduct problems, and there is no evidence that the effects of corporal punishment are either curvilinear or interact with level of warmth/control. This pattern of findings holds for both mothers and fathers. The table shows similar results for fathers' parenting of girls. Corporal punishment does not have a significant effect in any of the models. However, this is not the case for the models that focus on mothers' parenting. Model 1 shows a positive

association between mother's corporal punishment and girls' conduct problems after removing the effects of oppositional/defiant behavior and warmth/support. However, the results for model 2 indicate that there is a significant interaction between mothers' warmth/control and their use of corporal punishment, and that the main effect of corporal punishment is no longer significant after this interaction is taken into account. The quadratic in model 3 is not significant, so it is model 2 that provides the best fit of the data.

To better understand the interaction between mothers' warmth/control and corporal punishment, we regressed conduct problems on corporal punishment for girls whose mothers scored above the mean on warmth/control. We then repeated this procedure for girls with mothers who scored below the mean on warmth/control. The two regression lines obtained from these analyses are shown in Figure 1. The length of the regression lines indicates the range of corporal punishment scores for the 90% of cases in each group closest to the mean (i.e., the line depicts the range of corporal punishments scores for each group with the outliers removed). The figure shows that mothers low on warmth/control tend to

Figure 1. Delinquency for Iowan Girls Regressed on Mothers' Corporal Punishment, by level of Mothers' Warmth/Control



use higher levels of corporal punishment than those high on warmth/control. The graph also shows that for mothers low on warmth/control the more frequent the utilization of corporal punishment, the greater the frequency of conduct problems. Just the opposite is true, however, for mothers high on warmth/control. Although the length of the regression line indicates that these mothers rarely resort to corporal punishment, the negative slope suggests that, within this restricted range of utilization, increased use of corporal punishment is associated with lower levels of conduct problems.

Table 7 reports the results of using hierarchical regression with the Taipei sample. The results for mothers' parenting of daughters are similar to those obtained for the Iowa girls. Model 2, which includes the interaction term for warmth/control with corporal punishment, provides the best fit of the data. Plotting the interaction between mothers' corporal punishment and warmth/control produced a graph somewhat different from that obtained in Figure 1 for Iowa mothers. The regression lines are presented

Table 7. Use of Hierarchical Regression to Examine the Effect of Parental Behavior on Adolescent Conduct Problems in the Taiwan Sample

	Oppositional/ Defiant	Warmth/ Control	Corporal Punishment	WC X CP	CP^2	R^2
Boys						
Mothers' Parenting						
Model 1	.11*	−.20*	.09*	—	—	.075
Model 2	.11*	−.19*	.15*	−.10*	—	.081
Model 3	.11*	−.19*	.21*	−.05	−.12	.085
Fathers' Parenting						
Model 1	.07	−.21*	.12*	—	—	.090
Model 2	.08	−.20*	.19*	.12*	—	.100
Model 3	.08*	−.20*	.05	.17*	.20*	.112
Girls						
Mothers' Parenting						
Model 1	.10*	−.20*	.21*	—	—	.120
Model 2	.09*	−.21*	.17*	−.14*	—	.139
Model 3	.09*	−.22*	.07	−.14*	.11	.142
Fathers' Parenting						
Model 1	.09*	−.21*	.17*	—	—	.101
Model 2	.08	−.24*	.10*	−.16*	—	.125
Model 3	.07	−.24*	−.02	−.13*	.18*	.137

* $p \leq .05$.

in Figure 2. The figure shows that there is no relationship between corporal punishment and conduct problems when mothers are high on warmth/control, but that increased use of corporal punishment is associated with higher levels of conduct problems when mothers are low on warmth/control. The findings for the Taipei girls also differ from those for the Iowa girls in that corporal punishment shows a significant main effect in addition to its interaction with mothers' warmth/control. Analysis showed that the difference between the Taipei and Iowa girls in the magnitude of this regression coefficient is significant at the .05 level.

Figure 2. Delinquency for Taiwanese Girls Regressed on Mothers' Corporal Punishment, by level of Mothers' Warmth/Control

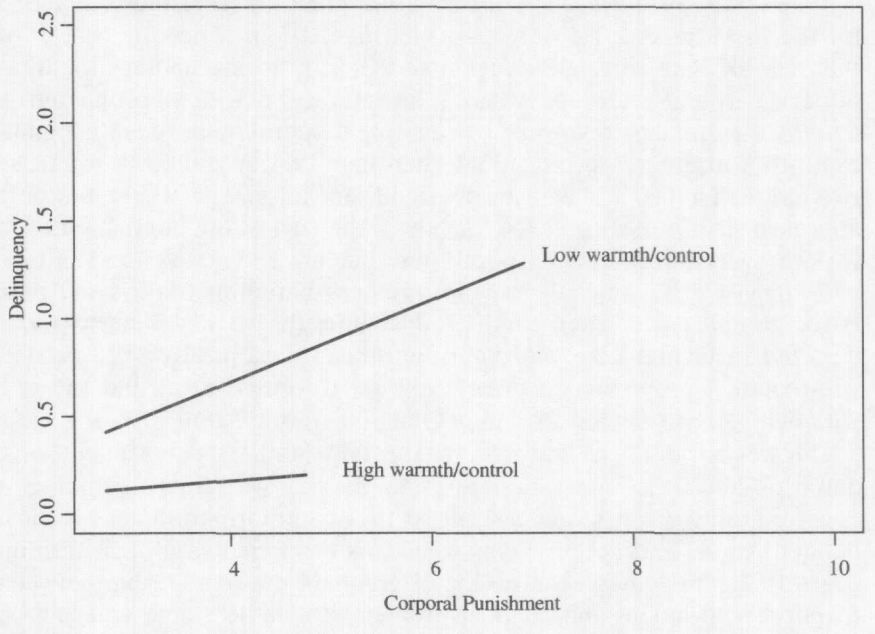


Table 7 shows that Model 2 also provides the best fit for mothers' parenting of boys. While the interaction term for mothers' warmth/control with corporal punishment was not significant for Iowa boys (see Table 6), it is significant for Taipei boys. Also, statistical tests showed that the interaction term for the Taipei boys is significantly larger than that for the Iowa boys ($p \leq .05$). The results of graphing the interaction for the Taipei boys produced a pattern very much like that depicted in Figure 2 for the Taipei girls. There was no relationship between corporal punishment and conduct problems when mothers were high on warmth/control, whereas

increased use of corporal punishment was associated with higher levels of conduct problems when mothers were low on warmth/control.

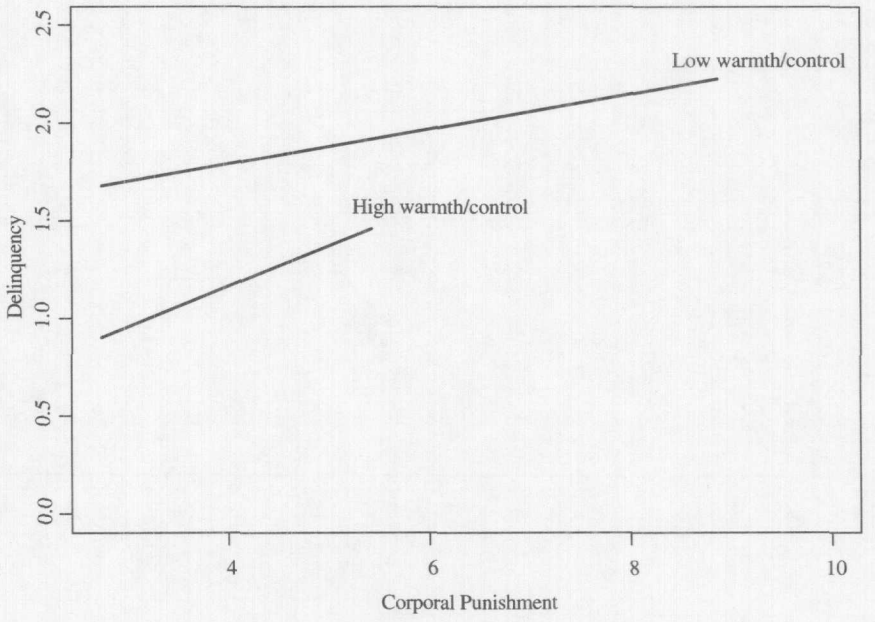
As noted in our discussion of Table 1, mean scores on warmth and monitoring were significantly lower for the Taiwanese parents compared with the Iowan parents. Thus, although Figures 1 and 2 both examine the effect of corporal punishment for mothers high and low on warmth/control, the Taiwanese mothers in the high warmth/control group were less nurturant and involved than the Iowan mothers classified as high on warmth/control. Results from the two graphs suggest that this difference may influence the consequences of corporal punishment. Increases in corporal punishment were associated with fewer conduct problems for Iowan mothers high on warmth/control, whereas corporal punishment was largely unrelated to conduct problems for their Taiwanese counterparts.

The results for Taiwan fathers are quite different from those obtained for the Iowa fathers. Table 7 shows that model 3 provides the best fit of the data for both sons and daughters. Contrary to the findings for Iowa fathers, corporal punishment shows an interaction with warmth/control, and the quadratic term formed by squaring corporal punishment is significant. The differences in magnitude between Taiwan and Iowa for these two interaction terms is statistically significant for girls ($p \leq .01$), but only approach significance ($p \leq .15$) for boys. The sign of the interaction term for warmth/control and corporal punishment is negative for fathers' parenting of girls, as was the case for mothers' parenting of boys and girls. Also, graphing this interaction produced results very similar to those depicted in Figure 2, i.e., corporal punishment was positively associated with conduct problems for fathers low on warmth/control, but the two variables were unrelated for fathers high on warmth/control.

This was not the case, however, for the Taipei fathers' parenting of sons. Table 6 shows the interaction term to be positive. Such a finding is counterintuitive as it seems to suggest that corporal punishment is most likely to cause conduct problems when it is combined with high warmth/control. Figure 3 shows the results of graphing the relationship between corporal punishment and conduct problems for fathers high and low on warmth/control. As in Figures 1 and 2, the length of the regression lines depicts the range of corporal punishment scores for 90% of the cases in each group closest to the mean. Although the figure shows the slope for fathers high on warmth/control to be steeper than that for those low on warmth/control, there is no indication that corporal punishment is more likely to promote delinquency when fathers are high on warmth/control. The regression lines show that fathers who are high on warmth/control almost never engage in the high levels of corporal punishment often displayed by the low warmth/control group. Indeed, the most extreme score for the high warmth/control group (6.0) roughly corresponds to the mean

level of corporal punishment (5.63) for the low warmth/control group. Importantly, for the range of corporal punishment scores shown by the high control/warmth group, the corresponding delinquency score is always lower than that for the low warmth/control group. For example, when the corporal punishment score is 3.0, delinquency is .90 for the high warmth/control group and 1.76 for the low warmth/control group, and, when the corporal punishment score is 6.0, the delinquency scores are 1.49 and 2.04 for the high and low warmth/control groups, respectively. Thus, for any given level of corporal punishment displayed by the high warmth/control fathers, the level of delinquency displayed by their sons is less than that shown by sons of low warmth/control fathers who engage in a comparable level of corporal punishment.

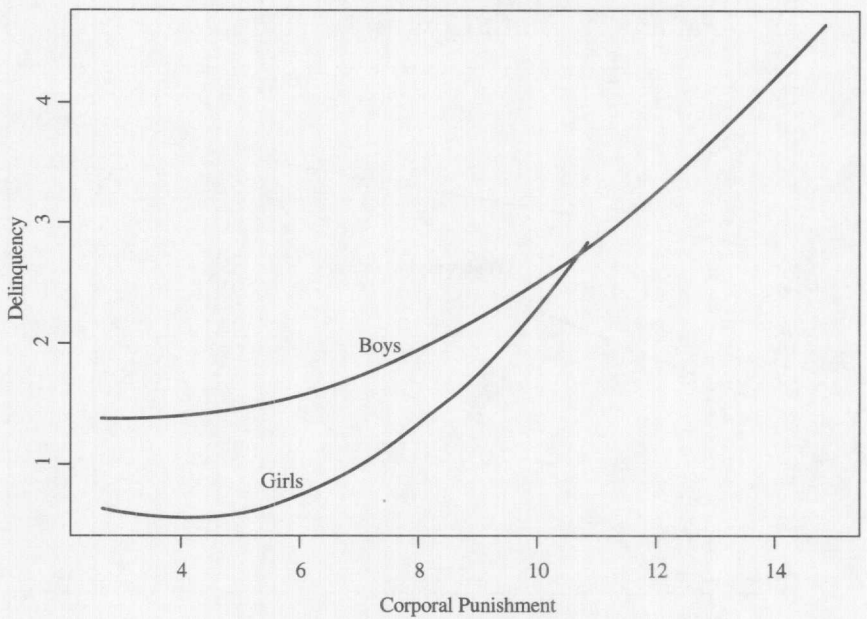
Figure 3. Delinquency for Taiwanese Boys Regressed on Fathers' Corporal Punishment, by Level of Fathers' Warmth/Control



The finding that the quadratic is significant for Taiwan fathers is consistent with the curvilinearity hypothesis that it is frequent or severe forms of corporal punishment that place an adolescent at risk for conduct problems. Figure 4 presents the results of graphing equation 3 for both fathers of boys and fathers of girls. The graph shows that girls show a sharp increase in conduct problems when their fathers score above 6 on

the corporal punishment scale. To obtain a score of this magnitude, a parent must be using one of the three types of corporal punishment at least half of the time when disciplining his daughter. The graph suggests that sons may have a higher threshold before they respond to harsh punishment with conduct problems. The curve for boys is less steep and fathers must score 7 or 8 on the corporal punishment scale before sons show a dramatic rise in conduct problems. A father must employ two of the three corporal punishments at least half of the time when disciplining his child, or use one of the approaches almost every time he administers discipline, in order to achieve a score of this magnitude.

Figure 4. Graph of the Curvilinear Relationship Between Fathers' Corporal Punishment and Delinquency for Taiwanese Boys and Girls



DISCUSSION

Although some social scientists assert that there is overwhelming evidence that parental use of corporal punishment leads to child behavior problems (Cohen and Brooks, 1994; McCord, 1991, 1997; Straus, 1991, 1994; Straus and Donnelly, 1994), such a contention appears to be an oversimplification of the literature. Most studies of small children report that

judicious use of spanking, especially when combined with inductive reasoning, fosters high child compliance and low levels of misbehavior (see Larzelere, 1996). The majority of studies reporting a positive relationship between corporal punishment and child behavior problems have focused on older children. Even these studies, however, have produced mixed results. Although many show a positive relationship between parental use of physical punishment and child conduct problems, some fail to find a relationship (see Larzelere, 1996). These contradictory findings are probably a result of the methodological weaknesses that have plagued much of the previous research on older children.

The present study examined the link between corporal punishment and adolescent delinquent behavior and avoided many of the methodological difficulties that have plagued prior studies of this age group. First, we employed a proportional measure of corporal punishment, as frequency measures tend to be confounded with assessments of the child's misbehaviors (Larzelere et al., 1996). Second, we examined the relationship between exposure to corporal punishment and involvement in delinquent behavior after controlling for the extent to which the child displays oppositional/defiant behavior in family interactions. This ruled out the possibility that both the parents' use of corporal punishment and the child's conduct problems are a consequence of the child having a difficult temperament (Larzelere, 1996). Third, our analyses considered the degree to which any negative effects of corporal punishment are countered or moderated by other dimensions of parenting, such as warmth, monitoring, and inductive reasoning (Deater-Deckard and Dodge, 1997; Simons et al., 1994). Finally, we tested the curvilinearity hypothesis (Deater-Deckard and Dodge, 1997) that it is only extreme forms of corporal punishment that foster antisocial behavior.

Although we were able to address several of the methodological deficiencies of previous studies, our research design also contained certain limitations. Chief among them was our use of cross-sectional data. In the absence of longitudinal data, we are open to the criticism that the causal ordering in our models is incorrect. Our analyses assume that corporal punishment operates as a cause of delinquency, but it may be that delinquency serves as a cause of corporal punishment. We readily admit that the relationship between corporal punishment and child behavioral problems is reciprocal. Past studies with longitudinal data have shown this to be the case (see Cohen and Brooks, 1994). Therefore, a portion of the zero-order correlations that we reported between corporal punishment and conduct problems undoubtedly reflect a tendency for parents to resort to corporal punishment when their children engage in antisocial behavior. We attempted to partial out this component of the correlation, however, by controlling for oppositional/defiant behavior. Delinquent adolescents

tend to be hostile and defiant in interactions with parents, and, in most cases, it is probably this behavior, rather than the child's delinquency, that causes parents to lose their temper and employ physical discipline. Indeed, most delinquent acts go undetected by parents and other authorities. Delinquency cannot be a cause of parental behavior if the parents are unaware of the delinquency.

The question of causal priority is also lessened by our use of a proportional measure of corporal punishment. A correlation between a frequency measure of delinquency and a frequency measure of corporal punishment might be interpreted as meaning that parents respond to delinquent acts by hitting the child. However, our measure of corporal punishment focused on the proportion of disciplinary encounters that involved the use of corporal punishment. Parents of an antisocial adolescent will mete out more discipline than those with a more conforming youngster. Our instrument assessed the proportion of those encounters that involved corporal punishment. Thus, rather than measuring frequency of corporal punishment, we assessed the extent to which corporal punishment is a component of the parent's disciplinary style. This approach reduced the chance that associations between our measures of corporal punishment and delinquency were a consequence of parents responding to the misbehavior of their children. Of course, in the absence of longitudinal data, we cannot be certain that our causal assumptions are correct.

Consistent with prior research (Patterson et al., 1992; Peterson and Rollins, 1987; Sampson and Laub, 1993; Simons et al., 1998), we found that the adolescents in our Iowa and Taiwan samples reported little involvement in delinquent behavior when their parents displayed high levels of warmth and control (i.e., the parents were supportive, monitored their child's behavior, and used inductive reasoning to explain rules). There was a positive zero-order correlation between corporal punishment and delinquency for both samples. In almost every case, however, this association was no longer significant after various controls were introduced. For the Iowa sample, in which use of corporal punishment tended to be modest, corporal punishment by fathers of sons and daughters and by mothers of sons was not related to delinquency after the effects of warmth/control were taken into account. This suggests either that the relationship between moderate levels of corporal punishment and delinquency is spurious because of the correlation of both variables with parental warmth/control or high levels of parental warmth/control tend to counter or offset the potentially negative effects of moderate use of corporal punishment.

For Iowa mothers of daughters, there was no longer a relationship between corporal punishment and delinquency after the interaction of corporal punishment and parental warmth/control was taken into account. A

graph of this interaction showed a positive association between corporal punishment and delinquency when mothers were low on parental warmth/control, whereas there was a negative association between these two variables when mothers were high on warmth/control. Although the latter finding suggests that corporal punishment may deter antisocial behavior in girls if it is provided within the context of affection and involvement, it should be noted that Iowa mothers high on warmth/involvement rarely resorted to corporal punishment.

Past studies have reported that parents are much more likely to hit boys than girls (Straus et al., 1980; Simons et al., 1992), and, in most families, parents tend to establish a division of labor in which mothers provide high levels of support and nurturance while fathers serve as the ultimate enforcers of discipline (LaRossa, 1986; Parke, 1981; Simons et al., 1994). Putting these two facts together, we interpret this interaction effect to mean that girls tolerate corporal punishment from their mothers as long as it is used infrequently and within a context of parental involvement and support. However, girls are likely to view such behavior as illegitimate and unfair when their mothers are low on affection and involvement. Under such circumstances, daughters might be expected to resist parental attempts at control and to exhibit defiant, antisocial behavior.

The results for the Taiwan mothers were somewhat different than those obtained for the Iowa mothers. For both sons and daughters, corporal punishment showed no association with conduct problems when mothers were high on warmth/control, whereas there was a positive relationship between the two variables when mothers' warmth/control was low. In general, the Taiwan mothers demonstrated higher levels of corporal punishment and lower levels of warmth/control than Iowa mothers. Although boys probably desire less mother involvement and are more tolerant of physical punishment than girls, it is probably the case that both genders expect their mothers to be supportive and to engage in low levels of corporal punishment. Many of the mothers in the Taiwan sample violated this expectation, and it appears that both sons and daughters respond to such parenting by resisting their mother's attempts at control and experimenting with delinquent behavior.

A different pattern of findings was obtained for Taiwanese fathers. For daughters, there was no association between corporal punishment and conduct problems unless the father was low on warmth/control. In contrast, an obverse interaction effect was found for fathers' parenting of sons, in which the relationship between corporal punishment and delinquency was stronger for fathers high on warmth/control compared with those low on warmth/control. It is not clear what this counterintuitive finding might mean. Perhaps it is simply a result of random error. However, even if this pattern of associations is real, it should be noted that this

finding does not mean that sons exposed to corporal punishment by fathers high on warmth/control are more likely to be delinquent than those who receive corporal punishment from a father low on warmth/control.

Our analyses showed that Chinese fathers high on warmth/control do not engage in as much corporal punishment as the low warmth/control group. Indeed, the highest levels of corporal punishment for the high warmth/control fathers corresponded to the mean level of corporal punishment for the low warmth/control group. Importantly, for the range of corporal punishment scores shown by the high warmth/control group, the corresponding delinquency score was always lower than that for the low warmth/control group. Thus, for any given level of corporal punishment displayed by the high warmth/control fathers, the level of delinquency displayed by their sons was less than that shown by sons of low warmth/control fathers who engaged in a comparable level of corporal punishment.

Perhaps the most theoretically interesting difference between the Taiwanese fathers and the rest of the parents in our study involved our finding of a curvilinear relationship between Taiwanese fathers' use of corporal punishment and adolescent conduct problems. Although there was little relation between the two variables when corporal punishment was low, high levels of corporal punishment were associated with high levels of delinquency. This curvilinear relationship was not evident for Taiwanese mothers or Iowan fathers and mothers. Past studies have shown that Chinese fathers tend to be strict disciplinarians (Chao, 1994; Chiu, 1987; Kriger and Kroes, 1972; Lin and Fu, 1990; Steinberg et al., 1992; Yee, 1983). Consistent with these reports, we found that the Taiwanese fathers in our study used corporal punishment more often than Taiwanese mothers or Iowan parents. Indeed, the parenting of some of these fathers might be considered borderline abusive. Thus, we interpret the finding of a curvilinear effect to mean that the consequences of moderate corporal punishment differ from those of more extreme forms of physical discipline (Deater-Deckard and Dodge, 1997). Although moderate levels of physical discipline appear to have little or no effect once other dimensions of parenting are taken into account, more extreme forms of corporal punishment appear to amplify the child's antisocial behavior. This finding is consistent with prior studies that have reported that persons exposed to moderate levels of physical punishment are no more likely to engage in antisocial behavior than those whose parents did not use corporal punishment, whereas individuals who experienced severe physical punishment show significantly higher levels of antisocial behavior than those who received either no or moderate corporal punishment (Bryan and Freed, 1982; Caesar, 1988; Deater-Deckard and Dodge, 1997; Holmes and Robins, 1988). It is our belief that high levels of corporal punishment increase

the probability of antisocial behavior because it fosters perceptions of injustice and feelings of anger and hostility, which in turn, motivate the child to resist parental attempts at control and to engage in oppositional and defiant behavior.

Chinese and U.S. cultural traditions provide different perspectives on children and parenting. Chinese values stress the importance of child obedience and emphasize the need for strict, controllng parenting practices to achieve this goal (Chiu, 1987; Kriger and Kroes, 1972; Lin and Fu, 1990; Yee, 1983). The U.S. culture, on the other hand, encourages a more nurturing, permissive approach to parenting designed to promote child individuality and self-expression (Bronfrenbrenner, 1985). Given these cultural differences, American children might be expected to view corporal punishment as illegitimate and unfair, while Chinese children might perceive such parenting practices as an indication of parental involvement and concern. This suggests the hypothesis that moderate levels of corporal punishment might be an ineffective form of discipline with American children, but operate as a deterrent to conduct problems among Chinese children. We found no support for this idea.

The consequences of various parenting practices tended to be similar for our Iowa and Taiwan samples. For both groups, absence of parental warmth, monitoring, and inductive reasoning was a much better predictor of adolescent antisocial behavior than parental use of corporal punishment. The major cultural differences involved the lower levels of warmth/control and the more frequent use of corporal punishment by the Chinese parents, especially Chinese fathers. However, the consequences of modest levels of corporal punishment tended to be the same in both samples: these parenting practices were largely unrelated to conduct problems once the main and moderating effects of parental warmth/control were taken into account. However, the more severe forms of corporal punishment demonstrated by some Chinese fathers were associated with an increased risk for adolescent delinquency. This finding is consistent with prior research on Anglo-American samples reporting a link between physically abusive parenting and child antisocial behavior (Alfaro, 1981; Widom, 1989; Zingraff et al., 1993).

Although our results suggest that the negative consequences of physical discipline with older children have often been exaggerated, they certainly should not be taken as an endorsement of corporal punishment. Most cases of corporal punishment with older children probably involve the parent losing his/her temper and slapping or shoving the child. Children may weather such events with no lasting ill effects when they occur infrequently and within the context of a positive parent-child relationship. It should be

emphasized, however, that our analyses provided little evidence that corporal punishment serves to deter adolescent conduct problems. This suggests that there are no practical justifications for a parent using corporal punishment with an adolescent child. Further, when a parent uses corporal punishment, there is always the danger that he or she will lose control and injure the child. For these reasons, we believe parents should always be discouraged from using corporal methods to discipline adolescent children.

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