THERE WAS AN OLD WOMAN WHO LIVED IN A SHOE: NUMBER OF CHILDREN AND CORPORAL PUNISHMENT

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Abstract

Spanking and other legal forms of corporal punishment (CP) by parents is associated with maladaptive behavior in both childhood and adulthood. Although most American parents spank their children at one time or another, there are wide variations in the frequency and duration with which CP is used. Using data from the 1985 National Family Violence Survey, we examined number of children as an aspect of family structure that might account for the variation. After controlling for birth order and age, the analysis revealed a linear increase in both the prevalence and chronicity of CP as number of children varied from one to four or more children. These findings suggest that the decline in fertility is part of the explanation for the decrease in corporal punishment by American parents. They also suggest that the emotional and/or economic stresses of additional children may lead parents to adopt potentially deleterious discipline strategies and that support and training in effective childrearing practices should not be limited to first-time parents.

The introduction to this paper will summarize evidence that spanking and other legal forms of corporal punishment (CP) are very widely used and that the use of CP is associated with an increased risk of aggression and other adverse outcomes for children. Given this unfortunate combination, it is important to have as much information as possible about what leads some parents to use CP on a daily basis and others to rarely do so.

Like other aspects of parent behavior, CP has multiple determinants. For example, a cultural norms perspective suggests that one determinant is the degree to which the parent is involved in a social network espousing the principle that "a good hard spanking is sometimes necessary" (Straus & Mathur, 1996). From a social psychological

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* Paper presented at the Annual Meeting of the American Sociological Association, Toronto. August 9, 1997. Address correspondence to Straus. The paper is part of a research program on corporal punishment at the Family Research Laboratory, University of New Hampshire, Durham, NH 03824. The preliminary statistical analyses were carried out by Rajasekar Raman. A program description and publications list will be sent on request. The work has been supported by National Institute of Mental Health grants R01MH40027 and T32MH15161 and the University of New Hampshire.
perspective, another determinant is the degree to which the parent’s world view is characterized by anger and resentment (Tsang, 1995) or whether the parent is dealing with a “difficult” child. From a social organization perspective, a number of family characteristics, such as socioeconomic status, have been investigated (Giles-Sims, Straus, & Sugarman, 1995; Straus, 1994), but one characteristic that has not received sufficient attention is the number of children in the family. This is somewhat surprising given the belief epitomized in the Mother Goose nursery rhyme "There was an old women who lived in a shoe. She had so many children she didn't know what to do. She gave them some broth without any bread and whipped them all soundly and put them to bed." This paper reports the results of a test of the hypothesis implicit in that nursery rhyme. The results can contribute to understanding the social causes of parental behavior and may be useful for assisting individual parents, or in formulating policies that could reduce reliance on CP.

CORPORAL PUNISHMENT IN AMERICAN FAMILIES

For purposes of this study, CP is defined as the use of physical force by parents with the intention of causing the child to experience bodily pain, but not injury, for purposes of correction or control (see Straus, 1994 for a conceptual analysis). The most frequent forms are spanking or slapping the hand of a toddler or slapping a teenager.

Research going back to the 1930's has documented a pervasive use of CP as a strategy for disciplining both children and adolescents (Giles-Sims et al., 1995; Good enough, 1931; Graziano & Namaste, 1990; Sears, Maccoby, & Levin, 1957; Strassberg, Dodge, Pettit, & Bates, 1994; Straus & Donnelly, 1994). Straus (1994), using data on just one of the parents in two national probability samples, found that between 90% and 95% used CP on toddlers in the preceding year. Although CP in middle childhood and adolescence is less normative, it still occurs at high rates. Approximately 60% of parents with 10-12 year old children, 40% of parents with 14 year old children and 20% of parents with 17 year old youth report CP, with an average frequency of nine times per year. These rates would be somewhat higher if data about both parents had been available (Straus and Donnelly, 19??).

ADVERSE SIDE EFFECTS OF CORPORAL PUNISHMENT

The widespread acceptance of CP in American families is troublesome in light of research findings documenting developmental problems associated with such behavior. The most widely investigated adverse side effect is physical aggression. Many studies, starting with Sears et al., (1957) have found that the more CP parents use, the more likely a child is to physically aggress against other children. A prospective study of children aged 3 to 10 by Straus, Sugarman, & Giles-Sims (1997) found that use of CP to correct misbehavior predicted increases in antisocial behavior at a two year follow-up (see also Strassberg et al., 1994).

A series of retrospective studies of adults by Straus and colleagues have shown that the harmful side effects of CP are also manifest in adulthood. For example, after controlling for the socioeconomic status of their parents, Straus and Mathur (1994) found
that adults who were corporally punished as adolescents were less likely to graduate from college; and those who did complete a college degree, were less likely to achieve a high level occupation and income (Straus & Gimpel, 1992).

Straus and colleagues also found CP to be associated with higher rates of physical assaults on a spouse, physical abuse of children, depression, suicidal ideation, and alcohol abuse (Straus, 1994; Straus & Kaufman Kantor, 1994; Straus & Yodanis, 1996). These analyses controlled for socioeconomic status and a number of other possible confounds such as witnessing violence between parents.

FAMILY AND CHILD CHARACTERISTICS ASSOCIATED WITH CORPORAL PUNISHMENT

Even at age 2 or 3, when more than 90% of American children experience CP, there are still wide variations in the frequency with which it is used. The mean is about three times a week (Giles-Sims et al., 1995), but the range is very large. Among 3-5 year old children in the National Longitudinal Survey of Youth, the range varied from a low of once per week (27% of parents) to a high of seven or more times per week (8% of parents). There are also large differences in the number of years parents continue to hit children. The 60% of parents who are still using CP on their 10-12 year old children also means that 40% have stopped.

This variation is partially explained by certain parental and child characteristics. Analyses of nationally representative samples (Giles-Sims et al., 1995; Straus, 1994), for example, revealed that CP is more likely to be used by individuals of lower social classes, Caucasians, mothers, younger parents, parents who were corporally punished as adolescents, and those who experienced violence in their marriage. Moreover, boys are more likely than girls to be corporally punished, as are younger and earlier born children.

NUMBER OF CHILDREN AND CORPORAL PUNISHMENT

There are a number of reasons to expect CP to also be more common in larger families. As the number of children in a family increases, parents have less time and energy to monitor, explain, and reason with each child and may therefore use CP as a quick form of behavioral control. In addition, larger families place more emotional and economic burdens on parents. Parents have to devote more time to child-rearing activities and may also have to spend more time working outside the home to meet the economic demands associated with more children. These commitments detract from the time that parents have to spend in pleasurable, stress-relieving activities and may serve to diminish the size and quality of personal support networks as well as the quality of the marital relationship itself. Increased stress, combined with reduced social support from the marital relationship, might engender negative affect among parents, which may in turn manifest itself in the form of punitive discipline strategies such as CP. Thus, we hypothesize that the larger the number of children, the greater the use of CP.
Previous Studies Of Corporal Punishment

One early investigation, Elder & Bowerman (1963) found that lower class girls with four or more siblings were twice as likely as their counterparts with only one or two siblings to report being corporally punished by mothers or fathers. However, similar number of children effects were not observed for girls from middle class backgrounds or for boys of any social class. Using data from a large community survey, Nye, Carlson, & Garrett (1970) demonstrated a linear increase in CP by both mothers and fathers, as well as a comparable decrease in the use of discussion as a discipline strategy, as number of children grew from one to eight or more children. Kidwell (1981) found that number of children was related to adolescents’ ratings of parental punitiveness (which included questions about actual CP), even after controlling for the effects of family socioeconomic status, race, parental structure, and sibling spacing. However, although Straus, Gelles, & Steinmetz’s (1980) analysis of a large nationally representative sample of American children found somewhat more CP among two child than among one child families, there was no increase in CP with additional children. Thus, the evidence on this seemingly plausible hypothesis is quite mixed.

Number of children And Other Parent Behaviors

Despite mixed evidence from studies examining CP, there is considerable evidence from research on related aspects of parent behavior that is consistent with the hypothesis.

Parent-Child Relationship Quality. With only a few exceptions (e.g., Gustavus, Philliber, & Graham, 1981; Richardson et al., 1986), studies which examined the relationship between number of children and the quality of parent-child relationships indicate that parents in larger families engage in more authoritarian and controlling behavior. Zussman (1978), for example, found that the larger the family, the greater the tendency for parents to use power assertion techniques (physical or material sanctions including CP) to deal with typical childhood transgressions of boys. Peterson and Kunz (1975) likewise reported that ratings of parental control were two to three times as high among middle class adolescents with six or more siblings compared to those from single child families. In addition, Scheck and Emerick (1976) found that a larger number of children was significantly associated with less parental support, stricter disciplinary practices, and more conflicted parent-child relations, even after controlling for number of children differences in socioeconomic status.

Maltreatment. Support for the hypothesized relation between number of children and CP is also suggested by research showing that children from larger families are at greater risk for physical abuse at the hands of their parents. Straus, Gelles, & Steinmetz (1980) found that the rate of child abuse in a large national survey of American families was 42% higher in families with two children compared to families with only one child. However, the rate of child abuse did not increase with more children. More recently, the results of studies conducted by Zuravin (1988a, 1988b, 1991; Zuravin & Grief, 1989) and others (Connelly & Straus, 1992) provide strong evidence that having more children, along with
various other stressors such as low educational attainment and chronic unemployment, partially account for the elevated risk of child abuse among children who were either unplanned or born to adolescent mothers. Taken together, these findings indicate that the stress of child rearing is greater in families with larger numbers of children. They suggest that CP, like physical abuse, should be more prevalent in larger families.

CONFOUNDING WITH AGE AND BIRTH ORDER

One reason for the inconsistent findings on number of children and CP may be that none controlled for the inherent confounding of number of children with the child’s age and birth order. The confounding occurs because, (except for twins and other multiple births) as the number of children increases, the average age must also increase, and because use of CP decreases as children grow older. Parents may also be less inclined to strike their later born children relative to their earlier born children. Without statistically controlling for age and birth order, a child from a larger family may appear to be at a lower risk for CP because he or she is more likely to be older or later born. Thus, the failure to control for age and birth order could obscure the association between number of children and CP. Our analyses therefore controlled for both age and birth order.

METHODS

Sample

The data for this investigation were obtained from the 1985 National Family Violence Survey, which used random digit dialing to contact a national probability sample of 6,002 households. One adult member of each household was interviewed over the telephone. When more than one eligible respondent was in the household, a random procedure was used to select the gender and marital status (married, cohabiting, recently divorced or separated, or a single parent) of the respondent. The interviews lasted an average of 35 minutes and the response rate, calculated as "completes as a proportion of eligibles," was 84%. Additional information on the sampling methodology is given in Straus and Gelles (1990).

Because the focus of this paper is CP, the analyses included only respondents who had one or more minor children living at home at the time of the survey (N = 3,360). One "referent child" was selected as the focus of questions on CP and child characteristics. When more than one minor child was living in the household, a random procedure was used to choose the referent child.

Measures

Corporal Punishment. The "Minor Violence" scale of the Conflicts Tactics Scales (CTS; Straus, 1979, Straus & Hamby, 1997) was used to obtain information about the use of CP by the parent during the 12 months prior to the interview. The acts in that scale refer to parental behaviors that are legal in every state of the U.S. Parents were asked how
often they used each of the following behaviors to deal with a problem with the referent child during the past year: a.) pushed, grabbed, or shoved the child; b.) threw something at the child; or c.) slapped or spanked the child. The response categories were 0 (never), 1 (once) 2 (twice) 3 (3-5 times) 4 (6-10 times) 5 (11-20 times) 6 (20 or more times).

These items were used to construct two measures of CP. The first measure groups parents into those who reported one or more instance of CP against the referent child during the survey year and those who reported none. The resulting scale measures the prevalence of CP in the preceding 12 months (61% in the present sample). The second scale measures the chronicity or frequency with which CP was used in the previous year among those who used CP. It was constructed by summing the frequency data (i.e., the midpoints of each frequency category) for each of the items. Of those who engaged in any CP in the previous year \((N = 2,054)\), 93% reported more than one incident and the average number of times CP was used was 9.2.

**Number of Children.** Family size was measured with the following question: "In all, how many children under the age of 18 do you (and your spouse) have living in this household? Respondents reported between one and eight or more children. However, because only 2.3% of the sample reported five or more children, we truncated the distribution by grouping together all parents with four or more children. Forty percent of parents had one child living at home, 38% had two, 15% had three and 7% had four or more.

**Child Age and Birth Order.** Beginning with the oldest child, parents were asked to list the ages of all children living in the household. When multiple children were reported, one was randomly selected as the referent child and his or her age and family position (e.g., first born, second born, etc.) was recorded by the interviewer. Referent children ranged in age from less than one year (5%) to 17 years old (6%), with an average age of 8.4 years. Sixty-six percent were first born, 25% second-born, 7% third-born and 2% last-born.

**Family Socioeconomic Status.** A composite SES scale was created by factor analyzing data on the following five economic indicators: educational attainment of the husband and the wife, occupational prestige of the husband and the wife, and the couple's combined annual income. One factor \((alpha = .80)\), accounting for 56% of the variance in those indicators, emerged from that analysis. Scores on that SES factor were used in the analyses reported below.

**Statistical Analysis**

Analysis of variance and covariance was used to test the hypothesis that use of CP increases as the number of children goes up, provided age and birth order are controlled. The analysis also controlled for family socioeconomic status and the age and gender of the parent.
RESULTS

Bivariate Analysis of Family Characteristics and Corporal Punishment

Part A of Table 1 presents means on the prevalence and chronicity of CP by parents with one, two, three, and four or more children. Results of omnibus Analysis of Variance tests, which detect overall differences among the four number of children groups, are also given. Row 1 shows that parents with only one child were substantially less likely than those with two or more children to have used CP during the previous year. However CP did not continue to increase after two children. Parents with three or four or more children were no more likely than those with two children to report using CP during the survey year. Contrast analyses comparing each pair of means confirmed that the prevalence of CP did not differ among parents with two, three, or four or more children. These results therefore replicate the findings from the previous national survey (Straus, Gelles, & Steinmetz, 1980).

A similar but weaker association was found between number of children and the chronicity of CP (row 2). Parents with one child at home used CP less frequently than those with either two or three children. However, parents with four or more children had the lowest frequency of CP. Individual contrast analyses comparing each pair of means revealed no significant differences in chronicity of CP between number of children groups.

==>Insert Table 1 Here<==

Part B of Table 1 examines family and child characteristics that could obscure the relation between CP and number of children. For example, referent children in larger families were more likely than those in smaller families to be later born and older. In addition, parent age was significantly different across the four number of children groups. Parents with two or three children were, on average, one to two years younger than those with either one child or four or more children. These differences need to be controlled because this statistical confounding would then explain why CP appears not to increase as the number of children in a family increases beyond two.

Finally, the last row of Table 1 shows that SES levels were lower in larger families (i.e., those with three and four children) than in smaller ones (i.e., those with one and two children). Since CP may be more common among lower SES parents, the effects of number of children per se can only emerge after disentangling the confounding with SES.

Multivariate Analysis of Number of Children and Corporal Punishment

==>Insert Table 2 and Figure 1 here<==

Prevalence. The first row in Part A of Table 2 shows that, after controlling for child and family characteristics, number of children is significantly related to the prevalence of CP. The means are plotted in Figure 1. In contrast to the unadjusted means, which show no variation beyond two children, the adjusted means show a linear increase in CP as
number of children increases from two to three, and from three to four or more children. Post-hoc contrast analyses comparing pairs of adjusted means revealed marginally significant differences in CP between parents with two and three children (p < .10) and between parents with three and four or more children (p < .10). The remaining rows of Part A give the relation of the covariates to CP.

=== Insert Figure 2 Here ===

**Chronicity.** The first row of Part B of Table 2 shows a similar pattern of results for the chronicity of CP. The unadjusted means in Figure 2 show an increase in the chronicity of CP as the number of children in the family increased from one to three, followed by a decrease from three to four or more children. When the confounding effects of other variables were partialed out (see the adjusted means), however, scores on the chronicity scale increased linearly up to three children and then leveled off in families with four or more children. Contrast analyses revealed a marginally significant (p < .10) difference between parents with two and three children in the chronicity of CP, but no difference between those with three and four or more children.

**SUMMARY AND DISCUSSION**

The results of this analysis of a nationally representative sample of American parents support the hypothesis that a larger number of children is associated with a greater use of CP by parents. As the number of children in the family increased the percentage of parents using CP, as well as the frequency with which CP was used, increased. This pattern emerged, however, only after controlling for the fact that children in larger families are older, later born, and have older parents, and that each of these characteristics is associated with less CP. Without controlling for these differences, both the prevalence and chronicity of CP increased from one to two children but then either remained constant or dropped off with further increases in the number of children. These findings illustrate the effect of a family structural variable on an important aspect of socialization. They suggest that the decline in fertility may be part of the explanation for the decreasing use of CP by American parents.

In view of the increasing evidence that CP is associated with a wide variety of undesirable developmental outcomes, the findings can alert parents and parent educators to a source of danger to children they may not have perceived. Specifically, parents can be alerted to the fact that additional children are associated with an increased likelihood of engaging in a mode of child rearing that, in principle, is opposed by more and more parents (Straus & Mathur, 1996). Moreover, this information may be especially important because of the evidence that attitudes favoring or opposing CP, although related to actual CP of older children, make little difference in respect to toddlers (Straus, 1994, chart 4-1). Coping with a first child is often seen as the most stressful part of parenthood and parent educators and pediatricians have traditionally tended to focus on helping parents deal with their first child. Although that continues to be important, the results of this study indicate that for some problems the need for assistance may be even greater with subsequent children.
REFERENCES

Peterson, E. T., & Kunz P. R. (1975). Parental control over adolescents according to family size. Adolescence, 10(39), 419-427.


Table 1. Bivariate Relationships Between Number of Children, Corporal Punishment, and Demographic Characteristics

<table>
<thead>
<tr>
<th>Means for each Number of Children</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4+</th>
<th>F</th>
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<tr>
<td></td>
<td>54.27</td>
<td>66.69</td>
<td>66.06</td>
<td>66.24</td>
<td>17.10***</td>
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<tr>
<td>A. Corporal Punishment</td>
<td>8.68</td>
<td>9.60</td>
<td>9.89</td>
<td>8.38</td>
<td>2.03*</td>
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<td>Prevalence of CP</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronicity of CP</td>
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<td></td>
<td></td>
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<tr>
<td>B. Family and Child Characteristics</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Child’s Birth Order</td>
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<td>1.47</td>
<td>2.00</td>
<td>2.63</td>
<td>885.34***</td>
</tr>
<tr>
<td>Child’s Age</td>
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<td>8.26</td>
<td>8.41</td>
<td>9.01</td>
<td>1.60*</td>
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<tr>
<td>Respondent Age</td>
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<td>34.53</td>
<td>34.63</td>
<td>36.00</td>
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<tr>
<td>Family SES</td>
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<td>5.68</td>
<td>5.20</td>
<td>4.98</td>
<td>5.49***</td>
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* All alphas are one-tailed. *** p < .001. ** p < .01. * p < .10.

Table 2. Analysis of Covariance Results for Number of Children and Corporal Punishment Prevalence and Chronicity

<table>
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<tr>
<th>Predictor Variable</th>
<th>df</th>
<th>F^b</th>
<th>b^c</th>
<th>A. Prevalence (N = 2,870)</th>
<th>df</th>
<th>F</th>
<th>b</th>
<th>B. Chronicity (N = 1,762)</th>
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<td>18.66***</td>
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<td>3.51**</td>
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<td>0.99</td>
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<td>Child’s Age</td>
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<td>80.85***</td>
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<td></td>
<td>1</td>
<td>72.71***</td>
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<td>Respondent Gender</td>
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</table>

* Because of listwise deletion of cases with missing data on one or more variables, the sample size for the prevalence analysis was reduced from N = 3,360 and the sample size for the chronicity analysis was reduced from N = 2,054

^b All alphas are one-tailed.

^c Unstandardized regression coefficients are given for the covariates to indicate the direction of their association with the CP variables.

*** p < .001. ** p < .01. * p < .05. * p < .10.
Figure 1. PREVALENCE OF CORPORAL PUNISHMENT BY NUMBER OF CHILDREN

Number of Children

Percent

Adjusted

Unadjusted
Figure 2. CHRONICITY OF CORPORAL PUNISHMENT BY NUMBER OF CHILDREN