
Ethnicity, Income, and Parenting Contexts of Physical Punishment in a National Sample of Families With Young Children

Lawrence S. Wissow

Johns Hopkins University
School of Hygiene and Public Health

Nearly half of U.S. parents use physical punishment for child discipline. Although some studies relate physical punishment and later dysfunction, others suggest that its effects depend on the context in which it is used. The authors analyzed data from the Commonwealth Fund Survey of Parents With Young Children, a national sample of 2,017 parents with children younger than 3. Parents reported their use of spanking, five other disciplinary practices, and four nurturing interactions. The authors used cluster analysis to define four groups of parents with distinct patterns of discipline and nurturing. Two groups with above-average use of spanking shared a high prevalence of parent depressive symptoms and a low level of nurturing but had markedly different demographic profiles and use of nonphysical punishment. Parents who used average levels of spanking made frequent use of nonphysical disciplinary strategies and had high levels of nurturing interactions. Parents who reported below-average spanking had relatively low levels of both disciplinary and nurturing interactions.

Although the use of severe or frequent physical punishment of children may be declining in the United States, surveys estimate that “ordinary” physical punishment (shaking, slapping, or spanking with a hand) occurs in nearly 60% of families with children younger than 18 and that in about 20% of families children are spanked with a belt (Gallup Organization, 1995). Slapping and shaking are nearly three times more common in families with children younger than five than in families with teens (71% com-

pared to 21%). Studies yield conflicting accounts of the relationship of physical punishment with ethnicity and economic status. The National Family Violence Surveys (1975 and 1985, cited in Straus, 1994) found no differences by income, and slightly higher rates of hitting among White compared to minority families. A study of mothers and low-birth-weight children ages 1 to 3 years found higher prevalence of hitting and scolding among poor versus not-poor families and among African American versus White families (Smith & Brooks-Gunn, 1997).

More than half of U.S. states have passed laws banning physical punishment in schools, and 10 countries around the world have banned physical punishment in homes through either legislative or court action (Grossman, Rauh, & Rivara, 1995; Hammarberg & Newell, 2000). Professional groups in the United States, however, have not been able to agree on whether parents should be uniformly counseled not to use physical punishment. In 1996, a panel convened by the American Academy of Pediatrics concluded that spankings “should not be the primary or only response to misbehavior used by a caregiver,” but the panel was able only to agree on a recommenda-

Author’s Note: This analysis was funded by the Commonwealth Fund through a contract with the University of California at Los Angeles, Child and Family Health Program. It was part of a collaborative analysis of the Commonwealth Survey of Parents With Young Children directed by Neal Halfon, Kathryn Taaffe McLearn, and Mark A. Schuster. Naihua Duan and David Klein developed the statistical methods for properly weighting the survey data. Mark Schuster and other project collaborators provided helpful comments on a prior draft and insights from their analyses of other data from the survey.



tion against physical punishment for children younger than 2 years of age (Conference Participants, 1996). Two years later, the academy issued a policy statement about discipline in which it recommended "parents be encouraged and assisted in the development of methods other than spanking for managing undesired behavior" (Committee on Psychosocial Aspects of Child and Family Health, 1998, p. 727).

One question blocking consensus is whether the family context of physical punishment has been adequately considered in studies that find adverse short- and long-term effects (MacMillan et al., 1999; Strassberg, Dodge, Pettit, & Bates, 1994). For example, Weiss, Dodge, Bates, and Pettit (1992), in a prospective study of kindergarten-age children, found a consistent, independent relationship between harsh discipline in the home and aggression in school, but they also found influences of child temperament, socioeconomic status, and marital violence. Gunnoe and Mariner (1997), analyzing longitudinal data from the National Survey of Families in Households, found that spanking was associated with children's aggressive behavior in some families but not others. Gunnoe and Mariner examined data for children ages 4 through 11, African American and White, living in two-parent or single-parent homes. For the majority of children, no statistically significant relationship was found between spanking and aggression. However, among African American girls ages 4 to 7 living in two-parent homes, spanking was inversely related to later aggressive behavior, whereas for White boys 8 to 11, spanking was positively related to later aggression. Gunnoe and Mariner proposed that differences in the rationale for using physical punishment—and children's acceptance of the rationale—might explain the differences in outcome. McLoyd (1990) has described how African Americans' history of oppression and ongoing experiences of racism (and in many families also poverty) may be associated with belief in the necessity of physical punishment or more strict disciplinary practices.

A related issue is how physical punishment is used in relationship to other forms of child discipline techniques. Although some parents—notably those who have been abusive to their children—use a relatively narrow and inflexible range of disciplinary techniques (Chamberlain & Patterson, 1995), most vary their approach with the nature of the child's behavior (Trickett & Kuczynski, 1986). Violations of day-to-day social rules, such as having bad manners or coming home late, tend to be responded to with reasoning and nonpunitive strategies, whereas "high arousal" behavior such as being physically rough or arguing may receive punishment. Scholars argue that physical

punishment could easily be associated with different outcomes in families where it is used as a primary or sole means of discipline, compared with outcomes in families where it forms a part of a range of disciplinary and nurturing practices (Larzelere, 1996). Smith and Brooks-Gunn (1997), analyzing development of low-birth-weight infants followed to age 3, found that scolding and hitting, when practiced in the context of low maternal warmth, was associated with decreased IQ (the trend was present for boys and girls but only statistically significant for girls).

Thompson and colleagues (1999) addressed this question by looking for variation in attitudes toward parenting and in the use of a variety of disciplinary practices among parents who reported using physical punishment. They were able to identify two groups of parents who used physical punishment with similar frequency but who differed greatly in their use of nonphysical discipline. One group used very little nonphysical discipline, reported more interactions that might be considered verbally abusive, and had more negative attitudes toward children in general. The other group had a more positive attitude toward children, used both physical and nonphysical punishment, and was less likely to report verbally harsh interactions.

Our goal in the work reported in this article was to extend Thompson and colleagues' (1999) analyses of the context of physical punishment. We were able to take advantage of data from a survey in which parents of children younger than 3 years of age reported on their use of physical punishment, nonphysical punishment, and nurturing activities such as reading, playing, and listening to music. Using the statistical technique of cluster analysis, we defined groups of parents whose use of physical punishment is distinguished by variation in its frequency relative to the use of nonphysical punishment and nurturing parent-child interactions.

METHOD

Data used in this study come from the Commonwealth Fund Survey of Parents With Young Children (Young, Davis, & Schoen, 1996). The survey was designed to reach a representative sample of parents who had at least one child younger than 3 years living with them at the time of the survey. Respondents were identified by stratified random-digit dialing with oversampling of African American and Hispanic parents. A total of 81% of individuals contacted by the random-digit dialing were willing to be screened for eligibility, and 68% of those found to be eligible completed a telephone interview. Respondents were eligi-

ble if they were biological, adoptive, or stepparents, or if they were legal guardians, so long as they lived with a child younger than 3. If a child lived with a mother and father, or with a male and female guardian, one of the parents/guardians was randomly selected to participate in the survey. The final sample totaled 2,017 parents, 1,320 mothers/female guardians and 687 fathers/male guardians. Table 1 describes the respondents by marital status, education, age, income, race, and ethnicity.

Parents were told that the goal of the survey was to learn about the kinds of help that parents needed and received when raising young children. Interviews took about 25 minutes and covered a range of topics, including the use and assessment of children's health services, interest in obtaining more information about child development and parenting, and stresses associated with parenting a young child. The survey asked parents about their use of six types of disciplinary practices. Three of the practices could be classified as inherently negative in tone, by definition involving physically or emotionally aversive acts (Trickett & Kuczynski, 1986): yelling, spanking, and hitting. The other three practices—time out, taking away a toy or treat, and explaining—can be performed in a more neutral (time out or taking away) or positive (explaining) manner (Socolar & Stein, 1996). All parents in the study were asked about their use of the three negative practices; only parents of children 18 to 36 months were asked about the neutral/positive practices. All six discipline questions were asked without reference to a particular time period (just, "How often do you use . . .?"), with answers in the categories often, sometimes, rarely, and never.

Parents were also asked how often in the past week they engaged in four nurturing activities with their children: reading or looking at a picture book together, listening to music, playing, and hugging or cuddling. These items had been selected by the survey's designers to represent two major domains of early childhood experiences provided by parents, cognitive/linguistic stimulation and warmth/love (Bradley, 1995; MacDonald, 1992). Parents could indicate frequency in five categories: not at all, once or twice a week, several times a week, about once a day, and more than once a day. To make comparable categories with the disciplinary practices, we considered once a day or more frequently as equivalent to often, several times a week as equivalent to sometimes, once or twice a week as equivalent to rarely, and not at all in the past week as equivalent to never.

Parent depressive symptoms were measured with five questions derived from the Center for Epidemio-

TABLE 1: Description of Survey Respondents

Characteristic	Percentage of Respondents
Marital status	
Married	72
Living as married	10
Single	18
Education	
Younger than high school	14
High school graduate	33
Some college	27
College graduate	26
Age at time of child's birth	
Younger than 20 years	6
20 to 24	18
25 to 29	29
30 to 34	28
35 and older	18
Annual household income	
Less than \$20,000	22
20,000-29,999	15
30,000-39,999	13
40,000-59,999	21
60,000 or more	21
Don't know/declined	8
Ethnicity	
African American	11
Asian	3
Hispanic	13
White	73
Other/unknown/declined	2

NOTE: Percentages reflect weighting of crude values to compensate for sampling design.

logic Studies depression self-report survey (CES-D) (Eaton & Kessler, 1981). Parents were asked how often in the past week (never, rarely, some of the time, most of the time) they had felt depressed, felt that they had enjoyed life, had crying spells, felt sad, or felt that people disliked them. Parents were given a symptom score ranging from 0 to 3 corresponding to answers of *some* or *most of the time* to none, one, two, or three or more of the symptom questions.

Human subjects. Parents gave verbal consent for participation when contacted by telephone. No identifying data were collected or stored, although selected parents were asked if they were interested in participating in follow-up studies. In that case, all that was recorded was a first name and the telephone number used to reach the family. The analyses presented in this article were conducted using an anonymous data set provided by the Commonwealth Fund. Plans for these analyses were reviewed and approved by the Committee on Human Research of the Johns Hopkins School of Hygiene and Public Health.

TABLE 2: Reported Use of Disciplinary Practices by Child Age

Disciplinary Practice ^a	Age Group (in percentages)						Significance ^b
	Younger Than 6 Months	6 to 11 Months	12 to 17 Months	18 to 23 Months	24 to 36 Months	All Ages	
Yell (sometimes or often)	4	16	40	51	63	40	$p < .0001$
Spank (ever)	2	11	36	59	67	40	$p < .0001$
Spank (sometimes or often)	0	4	12	18	25	14	$p < .0001$
Hit or slap (ever)	1	3	8	10	11	7	$p < .0001$
Hit or slap (sometimes or often)	0	2	1	4	2	2	$p = .07$
Time out (sometimes or often)	na	na	na	62	73	69	$p = .003$
Take away (sometimes or often)	na	na	na	48	55	53	$p = .06$
Explain (sometimes or often)	na	na	na	58	71	66	$p = .0003$

NOTE: na = not asked in this age group. Estimated proportions of respondents with index child in each age group, estimates derived from survey data adjusted for sampling methods.

a. Respondents were asked to indicate never, rarely, sometimes, or often. Results in the table are presented as sometimes and often versus rarely and never, except for hit/slap and spanking, where we also present never versus any reported use (ever). The ever cutpoints are presented and used in the text because, as can be seen from the table, relatively few parents reported hitting or spanking their children sometimes or often.

b. Significance test is for difference in percentage reporting use of each technique across the age groups; significance values are based on Pearson chi-square statistics corrected for the survey design.

Statistics. Figures describing the survey population and making comparisons among subgroups were calculated using the “svy” (survey) procedures from the statistical software package Stata. To estimate frequencies, proportions, and confidence intervals, crude tabulations were weighted to account for the oversampling of minorities, the increased likelihood of female respondents in single-parent families, and previously observed biases in response rates to telephone interview surveys (D. Klein & N. Duan, personal communication, September 15, 1998).

RESULTS

Prevalence of Disciplinary and Nurturing Practices

Negative disciplinary practices and child age. Overall, about 40% of parents said that they sometimes or often yelled at their child, and 40% said they had spanked their child at least once. Only 7% said they had ever hit or slapped their child. These three practices became more common as children got older (see Table 2). Although 16% of parents said they sometimes or frequently yelled at children 6 to 11 months old, 63% yelled at children ages 2 to 3 years. Similarly, 11% of children 6 to 11 months old were spanked at least once, compared with 67% of 2- to 3-year-olds. Hitting and slapping also increased in frequency as children got older; 3% of parents said they had hit their 6- to 11-month-olds, compared with 11% of 2- to 3-year-olds.

Neutral/positive disciplinary practices and child age. All three neutral/positive practices were used sometimes

or often by about 50% or more of parents with children 18 to 36 months old (as mentioned above, parents of younger children were not asked about these practices). Time out was the most common, used with 62% of 18- to 23-month-olds and 73% of 24- to 36-month-olds. Next was explaining—used with 58% and 71% of children in the two age groups. Taking things away was the least common of the neutral/positive methods, used with 48% of the younger and 55% of the older children.

Nurturing practices and child age. More than 80% of parents reported playing with and hugging or cuddling their children once a day or more frequently (see Table 3). There was no significant variation by child age. The prevalence of reading (or looking at a book together) increased with child age: 17% read books to children younger than 6 months on a daily basis, and 26% read daily to children between 6 months and a year of age. About half of parents said they read daily to children between 12 and 36 months. The proportion of parents who listened to music with their children on a daily basis fell as children got older, from about 68% among parents of children younger than 6 months old to 47% among children 24 to 36 months old ($p < .0001$).

Nurturing practices by child gender. Boys were slightly but significantly more likely to be yelled at or spanked than girls. A total of 42% of parents of boys said that they sometimes or often yelled compared with 37% of parents of girls ($p < .04$). Similarly, 43% of parents of boys said that they had spanked their child at least once, compared to 37% of parents of girls ($p = .02$). Parents of boys were no more likely than parents of

TABLE 3: Frequency of Reported Nurturing Activities by Child Age

Nurturing Activity ^a	Age Group (in percentages)						Significance ^b
	Younger Than 6 Months	6 to 11 Months	12 to 17 Months	18 to 23 Months	24 to 36 Months	All Ages	
Read or look at a book together	17	26	46	50	49	40	$p < .0001$
Play with child	87	87	85	86	80	84	$p = .11$
Hug and cuddle	91	92	89	89	88	90	$p = .70$
Listen to music	68	66	64	59	47	59	$p < .0001$

a. Frequency of activity in past week.

b. Significance test is for difference in percentage reporting use of each technique across the age groups; significance values are based on Pearson chi-square statistics corrected for the survey design.

girls to say that they hit their child. There were no statistically significant differences by child gender for any of the other disciplinary or nurturing practices covered by the survey.

Correlates of Spanking

Table 4 shows the relationship of several parent/guardian characteristics with the parent or guardian's report of ever spanking the child. Because only 6% of parents with a child younger than 1 year of age reported ever spanking their child, compared with 56% of parents with children from 12 to 36 months old, we present results only for parents of the 12- to 36-month-old children. Parent/guardian frustration was strongly associated with reports of spanking. Twice as many parents who reported two or more episodes of frustration or aggravation on a typical day said they had spanked their child, compared with those who reported no episodes (68% versus 34%, $p < .0001$). Parental depressive symptoms were also a predictor of spanking. Using the scale developed for this study, parents who reported one or two symptoms were the most likely to say they had spanked their child (65%), compared with parents who had no symptoms (52%) or who reported three or more (54%) ($p = .0021$).

Income and education were strongly associated with the use of spanking, but not in a "linear" fashion. Families with incomes in the \$20,000 to \$30,000 range reported the greatest proportion of spanking (66%), with lesser percentages among higher and lower income groups ($p = .0009$). Parents/guardians with a high school education (or general equivalency diploma) reported a greater proportion of spanking (63%) than parents with higher or lower education ($p = .0004$). Younger parents were also more likely to report that they had spanked their child. An estimated 60% of parents younger than 25 and 62% of parents 25 through 29 reported spanking compared with 54% of parents 30 through 34 and 44% of parents 35 and older ($p = .0018$). Parent ethnicity was also

marginally significant, with African American parents reporting a higher prevalence of ever spanking (67%) compared with Whites (57%), Hispanics (47%), and Asians (41%, $p = .012$).

A parent or guardian's history of abuse had only a marginally significant relationship with spanking. Parents who reported that they had been physically or sexually abused were more likely to report spanking (62%) compared with those who had no history of abuse (56%, $p = .037$). Neither parent gender, marital status, or employment were related to use of spanking.

Table 5 shows results of logistic regression analyses that summarize parent factors predicting the use of spanking. For the regression analysis, we chose factors (from those shown in Table 4) that were statistically associated with spanking at a $p < .05$ level or better. Two factors related to parental mental health were independently associated with spanking. Parents who reported more than one episode of frustration or aggravation a day had a four-fold increase in the odds of spanking (odds ratio 4.22, 95% confidence interval 2.55 to 7.01). Having one episode a day was associated with an odds ratio of 2.20 (95% confidence interval 1.30 to 3.70). Parents who reported some but not the highest level of depressive symptoms had significantly increased odds of reporting that they spanked their child (odds ratio 1.56, 95% confidence limits 1.08 to 2.24). Parental income, education, and age were not significantly related to use of spanking. In addition, African American parents were more likely to report having spanked their children compared with White parents (odds ratio 1.73, 95% confidence limits 1.14 to 2.62). No other parent characteristics (income, age, or education) were significantly related to use of spanking.

Variation in the Context of Spanking

As described in our introductory paragraphs, one of the ongoing difficulties in interpreting data about the use of physical punishment is differentiating situa-

TABLE 4: Parent Correlates of Spanking Children 12 to 36 Months of Age

<i>Factor</i>	<i>Estimated Percentage of Parents Who Ever Spank^a</i>	<i>Significance Level</i>
Family income (\$1,000s per year)		.0009
Less than 10	49	
10 to < 20	58	
20 to < 30	66	
30 to < 40	60	
40 to < 60	60	
60 or greater	44	
Parent gender		.78
Male	57	
Female	56	
Parent age (years)		.0018
Younger than 25	60	
25 to 29	62	
30 to 34	54	
35 or more	44	
Parent marital status		.51
Married or live together	56	
Widowed, divorced, or separated	53	
Never married	60	
Parent education		.0004
Less than high school	53	
High school/general equivalency diploma	63	
Some college	60	
College or more	47	
Parent ethnicity		.012
Asian	41	
Black	67	
Hispanic	47	
White	57	
Parent (respondent) employment		.57
Full-time	58	
Part-time	52	
Unemployed	64	
Parent abused as child		.037
None	56	
Verbal or emotional	53	
Physical or sexual	62	
Parent depressive symptom score		.002
0	52	
1 or 2 symptoms	65	
3 or more ^b	54	
Episodes/day of frustration with child		< .0001
None	34	
One	57	
Greater than one	68	

a. Estimates derived from survey data adjusted for sampling methods.

b. In the survey, three or more symptoms is considered the point at which a parent might be referred for further clinical follow-up.

tions in which it forms the sole or predominant basis for parent-child interaction or whether it takes place in the context of other more positive parenting inter-

actions. We address this question first by looking at simple correlations among the nurturing and disciplinary practices described by parents, and then through cluster analysis. The following analyses pertain only to the 1,016 parents of children ages 18 to 36 months old because questions about time out, explaining, and taking things away were not asked of parents of younger children.

First, we can ask the straightforward question of how spanking correlates with the other five disciplinary practices and the four nurturing activities covered in the survey (see Table 6). A first observation is that spanking is positively correlated with all the other forms of discipline. The correlation is strongest for yelling and hitting, but it is present as well for time out, taking things away, and explaining. People who spank their children use more of all kinds of discipline. Spanking is also negatively correlated with reading to the child, playing with the child, listening to music together, and hugging the child, although in each case the correlation is small in magnitude.

Next, we performed a cluster analysis using the six discipline items and the four nurturing parent-child activities. The goal of the cluster analysis was to see if we could define groups of parents that had clearly different balances of negative and neutral/positive approaches, or different balances of disciplinary interactions compared with nurturing interactions. Cluster analysis is a way of exploring whether, in a heterogeneous group of people, subgroups exist within which people tend to be more like each other (Aldenderfer & Blashfield, 1984). The first step in cluster analysis involves deciding what characteristics will be used to describe individuals. For our purposes, it was the frequency with which parents said they used the six disciplinary practices and engaged in the four nurturing parent-child activities. Next, we had to select a mathematical method for determining the degree of similarity between any two individuals. We used a method known as the "squared Euclidian distance." Euclidian distances are among the most common means used for determining similarity. They are particularly well-suited for our data because the 10 characteristics we are analyzing are all measured on similar scales. Third, we had to choose a method for assembling subgroups—or clusters—of similar individuals. There are several mathematical approaches to doing this; we chose the Ward method (Aldenderfer & Blashfield, 1984, p. 43) because it has a tendency to develop clusters that are of similar size, which facilitates analysis.

Another decision in performing cluster analysis involves deciding how many subpopulations to recognize within the overall study group. The number of

TABLE 5: Logistic Regression Analysis of Factors Associated With Ever Spanking Children 12 Through 36 Months of Age

<i>Factor</i>	<i>Coefficient</i>	<i>Odds Ratio and 95% Confidence Limits (if significant)</i>	
Family income (\$1,000s per year)			
Less than 10	reference category		
10 to < 20	.08		
20 to < 30	.25		
30 to < 40	-.20		
40 to < 60	.05		
60 or greater	-.32		
Parent age (years)			
35 or more	reference category		
Younger than 25	.21		
25 to 29	.42		
30 to 34	.28		
Parent education			
Less than high school	reference category		
High school/general equivalency diploma	-.14		
Some college	-.08		
College or more	-.33		
Parent ethnicity			
White	reference category		
African American	.55	1.73	(1.14-2.62)
Hispanic	-.05		
Asian and other	.76		
Episodes/day of frustration with child			
None	reference category		
One	.79	2.20	(1.30-3.70)
Greater than one	1.44	4.22	(2.55-7.01)
Parent depressive symptom score			
0	reference category		
1 or 2 symptoms	.44	1.56	(1.08-2.24)
3 or more symptoms	.13		
Constant	-2.68		(<i>p</i> < .001)

TABLE 6: Correlation of Disciplinary Practices and Parent-Child Activities With Parents' Report of Ever Spanking Their Child

<i>Practice or Activity.</i>	<i>Correlation^a</i>	<i>Significance</i>
Hitting	.39	< .0001
Yelling	.43	< .0001
Time out	.16	< .0001
Taking away	.23	< .0001
Explaining	.11	.008
Reading	-.07	< .0001
Listening to music	-.065	< .0001
Playing	-.09	.003
Hugging	-.08	.045

NOTE: Correlations between spanking and explaining, time out, and taking away pertain only to children 18 to 36 months of age; other correlations apply to children of all ages.

a. The coefficients reported were derived from linear regression with ever spanking as the dependent variable. The regression procedure used took into account the survey design.

subpopulations chosen is a compromise between homogeneity within each subpopulation (which favors having many small subpopulations), and hav-

ing enough members in each so that the subpopulations can be meaningfully characterized (which favors having fewer, larger subpopulations). After inspecting some preliminary cluster analyses, we decided to divide the parents into four groups, which seemed to yield the best compromise between homogeneity and group size. Figure 1 shows in graphic form the composition of the four clusters. Each bar represents the estimated percentage of parents, within each cluster, who say they have done the corresponding activity with their child.

Cluster 1 makes up an estimated 22% of the parents. It has the smallest proportion of parents who say they have ever spanked their child (36%), and the smallest proportion who say that they sometimes or often yell (34%). Although more than 80% of Cluster 1 parents report playing with and hugging their children, fewer than half report engaging in any of the other disciplinary or nurturing interactions. Table 7 shows the characteristics of parents in each cluster. About 60% of the parents in Cluster 1 are male, and they are the least likely to report depressive symptoms

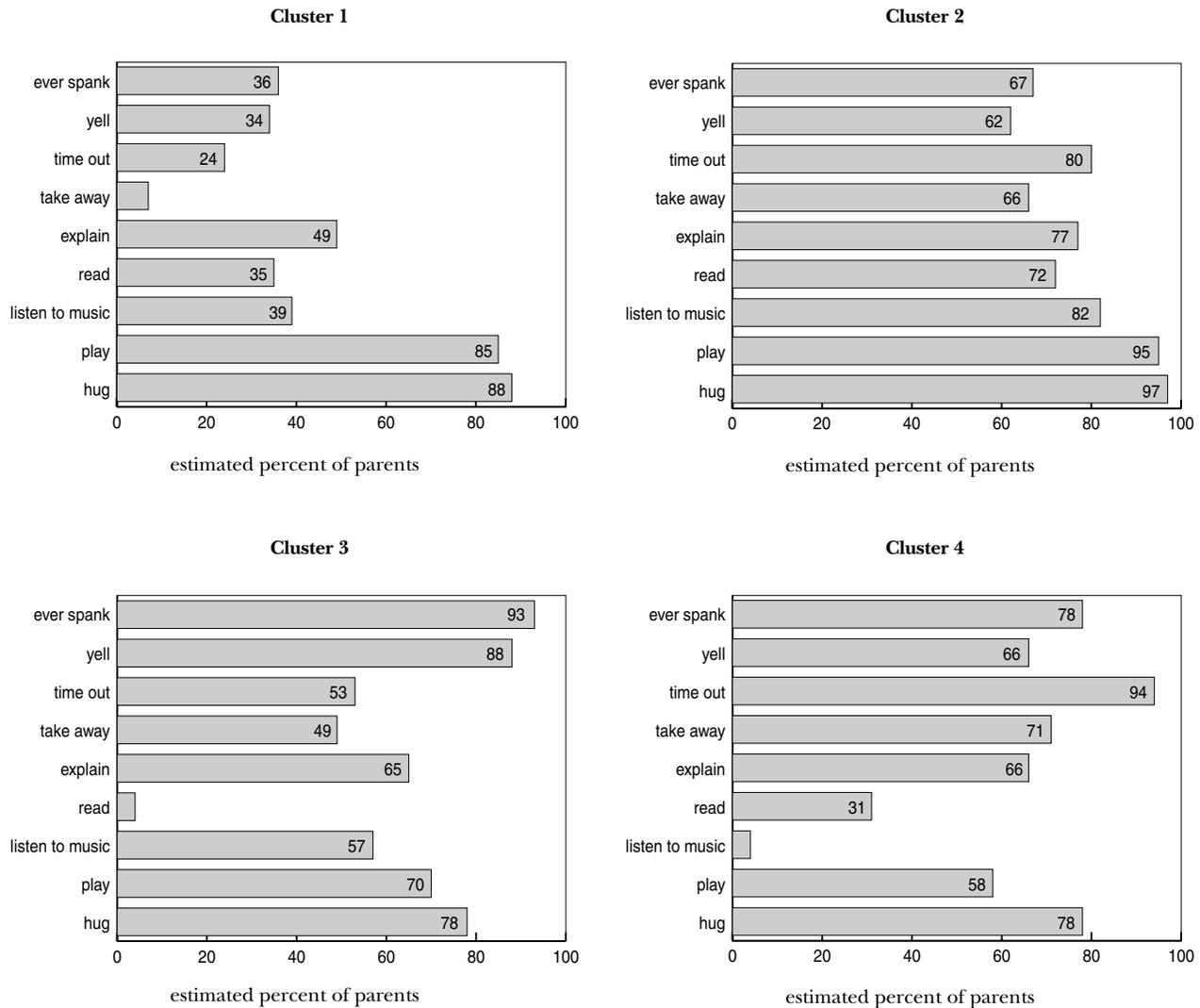


FIGURE 1: Percentage of Parents Using Disciplinary and Nurturing Practices by Cluster, Parents of Children 18 to 36 Months of Age
 NOTE: Figures in bars represent the percentage of parents reporting the use of each practice. Spanking frequencies are ever (with no stated time frame); yelling, time out, and take-away frequencies are sometimes or often (with no stated time frame). Explaining frequencies are often (with no stated time frame). Reading, listening to music, playing, and hugging frequencies are once or more a day in the past week. For each practice, the difference in percentages across the four clusters is statistically significant at the $p < .0001$ level.

or frustration with their children. This is not a particularly affluent group—56% make more than \$30,000 per year, but 29% say their income is less than \$20,000 per year—but it is not the poorest of the four clusters. This is also an ethnically diverse group—20% are Hispanic, 11% are African American, and 65% are White (not too different from the overall study population, which is 13% Hispanic, 11% African American, and 73% White). We might give this group the descriptive label of *low-interactors*. Its overall pattern may be driven by men who show affection toward and play with their children but who do not engage in much other activity with them.

In contrast, Cluster 2 might be called *high interactors*. It includes nearly half (47%) of the survey participants. Two thirds (67%) of the parents—almost twice as many as Cluster 1 but the average proportion for the study population as a whole—say they have spanked their child and a similar proportion (62%) say that they yell sometimes or often. However, a large proportion of Cluster 2 parents report engaging in all the disciplinary and nurturing interactions (with the exception of hitting, which is not shown in the figure because there was not a statistically significant difference in the proportion who reported it among the four clusters). Cluster 2 parents are mostly

TABLE 7: Characteristics of Parents and Children in Four "Clusters" Defined by Discipline and Parent-Child Interactions

<i>Characteristic</i>	<i>Cluster 1</i>	<i>Cluster 2</i>	<i>Cluster 3</i>	<i>Cluster 4</i>	<i>Significance^a</i>
Estimated percentage of survey population represented by cluster	22	47	7	23	—
Ever spank child (%)	36	66	93	78	< .0001
Parent gender (% female)	42	68	53	39	< .0001
Parent depressive symptoms (% score of 1 or more)	34	35	60	93	.005
Parent frustration (% one or more episodes a day)	63	89	92	83	< .0001
Percentage of income less than \$20,000/year	29	21	37	15	.02
Parent employment (% not employed)	27	28	34	11	< .0001
Parent education (% less than high school)	17	9	20	8	.02
Marital status (% single)	12	13	25	9	.002
Parent abused as child (%)	25	28	35	26	.50
Child gender (% female)	45	48	47	45	.91
Ethnicity					
African American	11	10	14	7	
Asian	4	14	2	2	< .001
Hispanic	20	7	21	11	
White	65	81	62	79	
Other	1	1	2	2	

a. Significance value is from survey-weighted chi-square procedure testing difference in percentage with a given characteristic among the four clusters.

women (68%). Only a third report one or more depressive symptoms, but 89% report daily episodes of frustration with their children. This group is largely White (81%), living with a partner (87%), and of moderate to upper income (63% with annual income of \$30,000 or greater, 21% \$20,000 or less). This group's characteristics may be driven by women from relatively affluent homes who appear to interact a great deal with their children in a variety of ways.

Cluster 3 is the smallest, making up only 7% of parents in the survey with children 18 to 36 months old. It has the highest proportion of parents (93%) reporting that they spank their child and the highest proportion (88%) who say that they sometimes or often yell. Only 3% of Cluster 3 parents say they read to their child, which may be a function of this group's relatively low level of education (20% with less than a high school education) and low income. About 57% say they listen to music with their child, and about half of Cluster 3 parents are women (53%). What sets Cluster 3 apart from the others are the relatively high proportions of families living in poverty (37% say they have incomes less than \$20,000 per year) and in single-parent households (25%). Parents in Cluster 3 are the most likely (60%) to report one or more symptoms of depression. The ethnic composition of Cluster 3, however, is very similar to that of Cluster 1, with a diversity of ethnic groups represented. This group might be called those who spank in the context of poverty and the stresses related to single parenthood.

Cluster 4 includes 23% of the parents. It is another group in which the large majority (78%) report hav-

ing spanked their children and in which 66% report sometimes or frequently yelling. This group is the most likely to use time out procedures (94%) but engages in relatively low amounts of nurturing activities such as reading (31%) and listening to music (3%). Cluster 4 is 61% male, 79% White, and the most affluent of the clusters, with only 15% having incomes of less than \$20,000 a year. Only 9% are single parents. In this group, 93% of parents report one or more depressive symptoms (the highest proportion among the four groups), and 83% report one or more daily episodes of frustration. The characteristics of Cluster 4 seem to be driven by men who are the family's disciplinarians but who have relatively little other interaction with their children. We might call this group the affluent, depressed disciplinarians.

DISCUSSION

Within a national sample of parents of young children, spanking appears to be used in a variety of combinations with other forms of parent-child interaction and in different socioeconomic settings. "Average" spankers do so in the context of relatively higher use of a range of nurturing interactions and of both negative and neutral disciplinary interactions. Above average spankers, however, report less reading, listening to music, playing, and hugging compared with the average group. In addition, the group with the highest proportion of parents who spanked also reported less than average use of other disciplinary strategies—time out and taking things away—suggesting that they

may place a greater reliance on spanking alone as a means of child discipline.

The sociodemographics of spanking also vary. In our cluster analysis, the two groups with the highest reported proportions of parents spanking represented the two extremes of our population in terms of income and ethnic composition: one had the greatest proportion of low-income parents and the largest proportion of Hispanic and African American parents (35%), and the other had the smallest proportion of low-income parents and was nearly 80% White.

This diversity of contexts suggests why it may be difficult, without trying to define subgroups within large populations, to develop consistent profiles of parents who use spanking. For example, Day, Peterson, and McCracken (1998), examining data from the National Survey of Families and Households, found that various measures of social context, including the presence of a stepparent, parental social support, and family size, influenced the prevalence of spanking but in different directions among parents from different ethnic groups. The diversity of contexts identified in our analysis also suggests different long-term risks. Heavy reliance on physical punishment rather than other forms of discipline and interaction with children that focuses more on discipline than nondisciplinary interactions may be contexts in which physical punishment could be harmful (Chamberlain & Patterson, 1995), as could be physical punishment in the context of the stresses of poverty (Weiss et al., 1992).

However, the cluster analysis also demonstrates that behind this diversity are several consistent factors that may place children at risk regardless of the context in which physical punishment is used. First, the use of spanking is strongly associated with parents' reports of depressive symptoms. Parent depression is itself a risk for children's development (Downey & Coyne, 1990). Because the Commonwealth survey asked only about a few key symptoms of depression, it is not possible to say what proportion of parents meet formal diagnostic criteria, but studies have found that the prevalence of depression among parents of young children is as high as 30%, with young, single mothers being at particular risk (Barnet, Joffe, Duggan, Wilson, & Repke, 1996).

Second, parent reports of spanking are correlated with their reports of yelling, and the proportion of parents who reported spanking was inversely associated with reports of nurturing activities. Although we do not know the content of the yelling in the Commonwealth study, in a population of former low-birth-weight infants followed to age 3, the combination of scolding and hitting in the context of low maternal warmth was associated with decreased IQ among girls

(but not significantly among boys) (Smith & Brooks-Gunn, 1997). In that study, being poor also increased the likelihood that children would experience scolding and hitting. Studies of older children also suggest that the quality of parental involvement with children—in particular warmth, acceptance, consistency, and monitoring—is a strong predictor of child behavioral outcomes and is inversely correlated with the use of harsh physical punishment (Simons, Johnson, & Conger, 1994). In our study, spanking was also correlated with increased use of nonphysical, nonaversive disciplinary strategies such as time out, taking things away, and explaining. Thus, even among "average" families, the use of spanking may reflect an increase in overall disciplinary burden and potential problems with parent-child interaction. These problems might be a function of the child's temperament, the parent's personality and attitudes, or both (Chamberlain & Patterson, 1995).

There are several cautions to observe in interpreting the Commonwealth survey data. First, respondents were not given a definition of spanking. They replied using an indefinite time period and general terms such as *sometimes* or *often*, and their reports were not confirmed by observation. We might find different clusters of parents if we were able to accurately differentiate those who truly spanked rarely from those who did it often or with more intensity. Because of the self-report nature of the data, and because the three negative disciplinary items were highly correlated with each other, we elected not to try to develop measures of severity by combining reports of spanking, hitting, and yelling.

Perhaps most important is that because of the study design, there is a great deal that we do not know about the context of physical punishment in the families in the survey. Except in single-parent families, either the male or female guardian was randomly chosen to be interviewed so we know only about one guardian's interaction with an index child, not both. Mothers' and fathers' agreement on parenting style is variable and correlates with the overall level of positive interaction in the home, which we were unable to measure (Deal, Halverson, & Wampler, 1989). There is also a great deal about the parenting environment that we do not know, including the consistency of parental discipline, parental warmth, and the involvement of other caretakers, all factors that might modify the effects of using physical punishment (Chamberlain & Patterson, 1995). We also do not know whether our clusters would look the same if we asked parents to report on their interactions with older children. The prevalence of physical punishment falls off markedly with increasing child age so its use with older chil-

dren may reflect very different family dynamics (Gallup Organization, 1995; Simons et al., 1994).

Another major caution involves the within- and cross-cultural validity of the nurturing and disciplinary practice measures. To take the disciplinary tactic of "explaining" as an example, cross-cultural and cross-economic-level studies suggest we expect major differences in both baseline rates of use and the content of what is explained. Brice-Heath (1988), studying low- and middle-income African American families in the southeastern United States, noted that low-income families expected children to learn social roles by observation rather than explanation and addressed less talk directly to children. Dunn and Brown (1991), comparing mothers' talk to 2- to 3-year-olds in central Pennsylvania with Cambridge, England, found U.S. mothers' messages about permissible behavior focused more on individual rights, whereas there was more of a focus on potential harm to others in the United Kingdom. Mothers in the United Kingdom spent more time instructing about mealtime behavior, whereas U.S. mothers were more concerned with tidiness. When talking about feeling states, U.S. mothers were more likely to mention dislikes and negative reactions, whereas U.K. mothers were more likely to mention concern and sympathy. Thus, the differences and similarities observed across our clusters demand much more in-depth exploration before they can be used as valid predictors of child outcomes.

Finally, cluster analysis is an exploratory procedure designed to generate hypotheses subject to validation. The Commonwealth survey does not contain child outcome data that might validate the profiles we have developed, nor does it allow us to observe or reinterview selected families to test the validity of our particular cluster solution. But our results are consistent with Thompson and colleagues' (1999) analysis of another national data set in demonstrating that physical punishment co-occurs with different amounts of nonphysical punishment and that groups can also be found who use relatively little physical punishment but in the context of relatively low levels of any disciplinary interaction with their children.

CONCLUSIONS

Physical punishment of young children appears to take place in a variety of contexts. Groups of parents with higher rates of using physical punishment seem more readily defined by parental mood than by race/ethnicity or socioeconomic status. In particular, we found groups with relatively high rates of physical

punishment that were both poor and well-to-do and both predominantly White and of higher than average ethnic diversity. Regardless of whether physical punishment itself is ultimately found to be harmful to children, its use may be an indicator of other risks to child development, including low parental mood, a relative decrease in the use of nurturing activities, or a parent-child dynamic resulting in the need for frequent disciplinary interventions of many kinds. However, the absence of physical punishment does not necessarily indicate an optimal parent-child interaction. Some parents' nonuse of physical punishment may be more a function of lack of involvement with their children than of mastery of less aversive disciplinary strategies.

REFERENCES

- Aldenderfer, M. S., & Blashfield, R. K. (1984). *Cluster analysis* (Sage University paper series on Quantitative Applications in the Social Sciences, 07-44). Beverly Hills, CA: Sage.
- Barnet, B., Joffe, A., Duggan, A. K., Wilson, M. D., & Repke, J. T. (1996). Depressive symptoms, stress, and social support in pregnant and post-partum adolescents. *Archives of Pediatrics and Adolescent Medicine, 150*, 64-69.
- Bradley, R. H. (1995). Environment and parenting. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 2* (pp. 235-261). Mahwah, NJ: Lawrence Erlbaum.
- Brice-Heath, S. (1988). Language socialization. In D. T. Slaughter (Ed.), *Black children and poverty: A developmental perspective. New directions for child development* (no. 42, pp. 29-41). San Francisco: Jossey-Bass.
- Chamberlain, P., & Patterson, G. R. (1995). Discipline and child compliance in parenting. In M. H. Bornstein (Ed.), *Handbook of parenting: Volume 4. Applied and practical parenting* (pp. 205-225). Mahwah, NJ: Lawrence Erlbaum.
- Committee on Psychosocial Aspects of Child and Family Health, American Academy of Pediatrics. (1998). Guidance for effective discipline. *Pediatrics, 101*, 723-728.
- Conference Participants. (1996). Consensus statements. The short- and long-term consequences of corporal punishment. *Pediatrics, 98*, 853.
- Day, R. D., Peterson, G. W., & McCracken, C. (1998). Predicting spanking of younger and older children by mothers and fathers. *Journal of Marriage and the Family, 60*, 79-94.
- Deal, J. E., Halverson, C. F., & Wampler, K. S. (1989). Parental agreement on child-rearing orientations: Relations to parental, marital, family, and child characteristics. *Child Development, 60*, 1025-1034.
- Downey, G., & Coyne, J. C. (1990). Children of depressed parents: An integrative review. *Psychological Bulletin, 108*, 50-76.
- Dunn, J., & Brown, J. (1991). Becoming American or English? Talking about the social world in England and the United States. In M. H. Bornstein (Ed.), *Cultural Approaches to Parenting* (pp. 155-172). Hillsdale, NJ: Lawrence Erlbaum.
- Eaton, W. W., & Kessler, L. G. (1981). Rates and symptoms of depression in a national sample. *American Journal of Epidemiology, 114*, 528-538.
- Gallup Organization. (1995). *Disciplining children in America*. Princeton, NJ: The Gallup Organization.
- Grossman, D. C., Rauh, M. J., & Rivara, F. P. (1995). Prevalence of corporal punishment among students in Washington State schools. *Archives of Pediatric and Adolescent Medicine, 149*, 529-532.
- Gunnoe, M. L., & Mariner, C. L. (1997). Toward a developmental-contextual model of the effects of parental spanking on chil-

- dren's aggression. *Archives of Pediatric and Adolescent Medicine*, 151, 768-775.
- Hammarberg, T., & Newell, P. (2000). *Global initiative to end all corporal punishment of children*. Background paper for WHO. London: EPOCH-WORLDWIDE.
- Larzelere, R. E. (1996). A review of the outcomes of parental use of nonabusive or customary physical punishment. *Pediatrics*, 98, 824-828.
- MacDonald, K. (1992). Warmth as a developmental construct: An evolutionary analysis. *Child Development*, 63, 753-773.
- MacMillan, H. L., Boyle, M. H., Wong, M. Y., Duku, E. K., Fleming, J. E., & Walsh, C. A. (1999). Slapping and spanking in childhood and its association with lifetime prevalence of psychiatric disorders in a general population sample. *CMAJ*, 161, 805-809.
- McLoyd, V. C. (1990). The impact of economic hardship on Black families and children: Psychological distress, parenting, and socioemotional development. *Child Development*, 61, 311-346.
- Simons, R. L., Johnson, C., & Conger, R. D. (1994). Harsh corporal punishment versus quality of parental involvement as an explanation of adolescent maladjustment. *Journal of Marriage and the Family*, 56, 591-607.
- Smith, J. R., & Brooks-Gunn, J. (1997). Correlates and consequences of harsh discipline for young children. *Archives of Pediatric and Adolescent Medicine*, 151, 777-786.
- Socolar, R.R.S., & Stein, R.E.K. (1996). Maternal discipline of young children: Context, belief, and practice. *Developmental and Behavioral Pediatrics*, 17, 1-8.
- Strassberg, Z., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1994). Spanking in the home and children's subsequent aggression toward kindergarten peers. *Developmental Psychopathology*, 6, 445-461.
- Straus, M. A. (1994). *Beating the devil out of them: Corporal punishment in American families*. New York: Lexington Books.
- Thompson, R. A., Christiansen, E. H., Jackson, S., Wyatt, J. M., Colman, R. A., Peterson, R. L., Wilcox, B. L., & Buckendahl, C. W. (1999). Parent attitudes and discipline practices: Profiles and correlates in a nationally representative sample. *Child Maltreatment*, 4, 316-330.
- Trickett, P. K., & Kuczynski, L. (1986). Children's misbehaviors and parental discipline strategies in abusive and non-abusive families. *Developmental Psychology*, 22, 115-123.
- Weiss, B., Dodge, K. A., Bates, J. E., & Pettit, G. S. (1992). Some consequences of early harsh discipline: Child aggression and a maladaptive social informational processing style. *Child Development*, 63, 1321-1335.
- Young K. T., Davis, K., & Schoen, C. (1996). *The commonwealth fund survey of parents with young children*. New York: The Commonwealth Fund.

Lawrence S. Wissow is a physician trained in pediatrics, child psychiatry, and public health. He is an associate professor of health policy at the Johns Hopkins School of Hygiene and Public Health in Baltimore, Maryland. His research focuses on the detection and discussion of sensitive issues in primary care medical settings and has included work on physical punishment, maternal distress, and formulating advance directives. He is particularly interested in provider interview style and its impact on patient disclosures and subsequent mental health status.