

Socioeconomic Gaps in Parents' Discipline Strategies From 1988 to 2011

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abstract

BACKGROUND AND OBJECTIVES: The prevalence of corporal punishment is high in the United States despite a 1998 American Academy of Pediatrics policy statement urging against its use. The current study tests whether the socioeconomic difference in its use by parents has changed over the past quarter century. It goes on to test whether socioeconomic differences in the use of nonphysical discipline have also changed over time.

METHODS: Data are drawn from 4 national studies conducted between 1988 and 2011. Each asked how often a kindergarten-aged child was spanked in the past week and what the parents would do if the child misbehaved, with physical discipline, time-out, and talking to child as possible responses. We use regression models to estimate parents' responses to these questions at the 90th, 50th, and 10th percentiles of the income and education distributions and *t* tests to compare estimates across cohorts.

RESULTS: The proportion of mothers at the 50th income-percentile who endorse physical discipline decreased from 46% to 21% over time. Gaps between the 90th and 10th income-percentiles were stable at 11 and 18 percentage points in 1988 and 2011. The percentage of mothers at the 10th income-percentile endorsing time-outs increased from 51% to 71%, and the 90/10 income gap decreased from 23 to 14 percentage points between 1998 and 2011.

CONCLUSIONS: Decline in popular support for physical discipline reflects real changes in parents' discipline strategies. These changes have occurred at all socioeconomic levels, producing for some behaviors a significant reduction in socioeconomic differences.



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WHAT'S KNOWN ON THIS SUBJECT: Discipline strategies differ by family background such that parents with lower education and income levels spank and use other forms of corporal punishment more often, and use nonpunitive forms of discipline less often, than parents of higher socioeconomic status.

WHAT THIS STUDY ADDS: Using data from 4 large nationally representative studies, this study examines whether the documented decline in parents' use of physical discipline and increase in use of nonphysical discipline since the 1980s has narrowed or widened socioeconomic differences in discipline strategies.

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Numerous studies find that socioeconomically advantaged and disadvantaged parents differ on average in the quality and quantity of their interactions with children.¹ This socioeconomic “parenting gap” stems from many factors including but not limited to the economic hardship, emotional stress, and lower access to information and services that often accompany low income. This gap in turn may account for a substantial portion of the socioeconomic gap in children’s kindergarten readiness.² Although many studies examine the parenting gap and its implications, few examine how that gap may have changed over time. Studies that have examined changes over time focus on parents’ engagement in cognitively stimulating activities^{3,4} even though the quality of parents’ socioemotional interactions with children also meaningfully shape early development.^{5,6} Therefore, the current study investigates changes over time in the socioemotional parenting gap.

Discipline strategies represent a central component of socioemotional interactions. Corporal punishment includes discipline strategies such as spanking, hitting with objects, and other actions that intentionally cause physical pain. Nonphysical discipline strategies include “time-out” and explanations for desirable behaviors. There is evidence that use of these discipline strategies differs by family background. Specifically, parents with lower socioeconomic status (SES) spank and use other forms of corporal punishment more often than higher SES parents,^{7,8} whereas higher SES families are more likely than their lower SES counterparts to use nonphysical discipline strategies that include reasoning and promote child autonomy.⁹ A recent meta-analysis of 2 decades of research identified significant associations, albeit correlational ones, between corporal punishment and a range of negative socioemotional outcomes.¹⁰ A related

literature finds that differences in parents’ socioemotional interactions explain a meaningful proportion of SES-based differences in children’s outcomes.^{2,11,12}

It is possible, however, that this parenting gap in discipline strategies has changed over time. Over the past 30 years, public support for corporal punishment has declined sharply, both in terms of attitudes toward^{13,14} and parents’ actual use of physical discipline.¹⁵ This cultural shift may have affected lower SES parents more than higher SES parents because their initial rates of corporal punishment were higher. If so, the SES gap in the use of corporal punishment would have declined over time. It is alternatively possible that economically advantaged parents responded more quickly to this trend than lower SES parents, thus widening the parenting gap; for example, less educated mothers were slower to curb prenatal smoking after the release of the Surgeon General’s Report of 1960 outlining its health hazards, suggesting that economically advantaged parents generally respond more quickly to parenting information.¹⁶ No research has directly examined changes in the popularity or use of nonphysical discipline strategies, but it is reasonable to hypothesize that a decline in the use of physical discipline would be linked to an increase in the use of their alternative. If so, SES-based gaps in strategies that use nonphysical discipline techniques such as time-out may also have decreased as lower SES parents began using them more often, or increased as higher SES parents adopted them more readily.

The current study estimates SES-based differences in the reported endorsement and use of physical and nonphysical discipline strategies from 1988 through 2011. This time period coincides with the decline in popular support for corporal punishment, but it is also of interest

because in 1998 the American Academy of Pediatrics (AAP) released a policy statement urging parents against using corporal punishment and encouraging their use of nonphysical strategies such as time-out,¹⁷ citing scientific consensus from a 1996 AAP conference on corporal punishment.¹⁸ Our data cannot identify the causal impact of the AAP statement on discipline practices, but no other study has compared, even descriptively, parents’ discipline strategies, and the SES-based differences in strategies before and after 1998. Specifically, the study examines whether (1) endorsement and use of corporal punishment (hitting and spanking) declined for parents across levels of SES between 1988 and 2011, (2) endorsement of nonphysical (time-outs/sending to room and talking to child) discipline increased over the same time period, and (3) SES-based differences in the reported endorsement and use of these strategies changed over time. We examine these trends in parents of kindergarten-age children because age 5, the typical age of kindergarten entry, is among the most common ages for parents to use spanking.^{13,15}

METHODS

Data

Data were drawn from 4 nationally representative studies conducted over a 23-year period: the National Longitudinal Survey of Youth 1979–1988/1990 Maternal and Child Supplement (NLSY), the Panel Study of Income Dynamics—1997 Child Development Supplement (PSID), the Early Childhood Longitudinal Study—1998/1999 Kindergarten Cohort (ECLS-K), and the Early Childhood Longitudinal Study—2010/2011 Kindergarten Cohort (ECLS-K:2011). To ensure children’s ages were maximally similar across data sets, within the NLSY and PSID, analytic samples were limited to families with children

5- to 7-years-old; within the ECLS-Ks, children repeating kindergarten (and children not living with their mothers/female guardians) were excluded. Within these eligible samples, >90% of families in each data set had valid data on household income and maternal education ($N = 2354$ in the NLSY; $N = 765$ in the PSID; $N = 15\,300$ in the ECLS-K; $N = 12\,000$ in the ECLS-K:2011).

The NLSY is representative of the entire population of youth aged 14 to 21 in the United States in 1979. Beginning in 1986, the NLSY began collecting information biennially on the biological children of the female NLSY respondents. We use data from the 1988 or 1990 waves of data collection, which provides our earliest data point (data from 1988 were used if data were missing in 1990). The PSID is a household panel study that constitutes a nationally representative sample of US families in 1968. In 1997, the PSID supplemented its main data with additional information on 0- to 12-year-old children and their parents (PSID-CDS). The ECLS-K and ECLS-K:2011 collected information from a nationally representative sample of kindergartners and their parents across the United States in 1998 and 2011, respectively, providing our most recent data points. Statistics describing each sample's child and family characteristics are reported in Table 1. Overall, differences in income and education level across data sets reflect national trends. The exception is the 1988/1990 NLSY, in which mothers have lower education levels than in any other study likely because women of the NLSY who were mothers by those waves were comparatively young.

Each study asked mothers 2 questions, worded analogously, that were used to create 4 measures of parental discipline. First, mothers were asked in all studies, "If your child got so angry he/she hit you,

TABLE 1 Sample Characteristics Across Surveys and Cohorts

	1988	1997	1998	2011
	NLSY	PSID	ECLS-K	ECLS-K
Household income ^a				
Average 3-yr income	\$53 331.42	\$77 336.95	\$51 830.65	—
0–\$20 000	24.43	22.69	24.16	19.82
\$20 001–\$40 000	27.27	29.32	27.97	22.56
\$40 001–\$50 000	9.81	10.26	10.96	6.98
\$50 001–\$75 000	21.01	16.81	18.03	16.73
≥\$75 001	16.48	20.9	18.88	33.90
Maternal education				
Less than high school	22.43	16.45	13.77	12.41
High school/GED	53.13	34.67	36.29	26.40
Some college	19.06	27.66	27.11	26.39
College+	5.37	21.22	22.84	34.80
Child race ^b				
European American	50.55	59.24	58.69	52.94
African American	29.40	18.68	15.55	11.77
Hispanic	20.05	12.62	18.60	25.00
Other race/ethnicity	—	9.46	7.16	10.29
Maternal age, yr, M (SD)	28.42 (2.34)	33.35 (5.60)	33.08 (6.68)	34.02 (6.19)
Child age, mo, M (SD)	77.94 (9.62)	77.64 (10.05)	74.43 (4.25)	73.19 (4.21)
Male sex	50.08	51.68	50.73	51.00
<i>n</i>	2354	765	15 300	12 000

Means and percentages are weighted using each study's analytic weights for the relevant survey year; 1998 ECLS-K analyses were weighted using ECLS-K replicate weights C2PW0; ECLS-K:2011 analyses were weighted using ECLS-K replicate weights W2P0. GED, general equivalency degree.

^a Income is categorical in the ECLS-K:2011; categories are collapsed here for ease of viewing. Income is reported as a continuous measure in the NLSY, PSID, and the 1998 ECLS-K and is collapsed into categories here for ease of viewing. For the NLSY and PSID, we also report the 3-yr income average around the time of the survey, in 2014 US dollars.

^b The NLSY only distinguishes children who are non-Hispanic/non-African American, thus European American and other race/ethnicity are combined.

what would you do?" (in the PSID, if the child was 6 years old or older, the question was phrased: "Most children get so angry at their parents that they say things like 'I hate you' or swear in a temper tantrum"). Responses included "hit back," "spank," "send to room," "have him/her take a time out," or "talk to," and mothers could endorse multiple responses. If mother responded they would "hit back" and/or "spank," they were considered to endorse physical discipline; if they responded that they would "send to room/give time out," they endorsed nonphysical discipline; and if they said they would "talk to" the child, they endorsed talking. In the ECLS-Ks, this response more explicitly reflects reasoning than in the NLSY or PSID, as the response reads, "talk to [him/her] about what he/she did wrong." Parents in all studies were also asked: "About how many times in the past week have you spanked your child?" Mothers

were coded "1" for spanking if they reported spanking their child at all in the past week.

All studies contain 2 measures of socioeconomic status, household income and parental education. The NLSY collected information about income from different sources, including transfers from both governmental and nongovernmental sources. The PSID gathered a high-quality edited measure of total family income, which includes taxable income and cash transfers to all household members. For both studies, income measures were computed as the household income averaged across the survey year (1988 or 1990 in the NLSY) and the years just before and after the survey year. The ECLS-Ks asked parents what their yearly household income was; in 1998 this was measured continuously, and in 2011, responses fell within 18 specific income ranges. These ranges began at ≤\$5000 at the

lower end and ended with $\geq \$200,001$ at the top. Our measure of parental education in the NLSY, PSID, and ECLS-Ks come from mothers' reports of their total years of education and degrees attained from the year in which the parenting data were drawn. The maximum years of education in the NLSY were 20. The maximum years of education in the PSID were 17, which represented all education beyond college. In the ECLS-Ks, education was measured categorically with the highest level of education being doctorate/professional degree.

Analytic Strategy

To assess changes in SES-based gaps in parents' discipline strategies over time, we compared the percentage of mothers endorsing each discipline strategy within and across cohorts at different points in the income and education distributions. Generating these estimated percentages required 3 analytic steps. First, because income and education were measured categorically in some studies, we could not identify children's exact percentile in the income (or education) distribution. So we converted the continuous income (and education) data into uniform, ordinal categories: 10 (and 7) in the NLSY, 7 (and 6) in the PSID, 15 (and 9) in the ECLS-K, and 18 (and 9) in the ECLS-K:2011.

Second, we estimated the average endorsement of each parental activity in each income (and education) category. To do so, we ran a weighted least squares regression of each parenting item in each dataset, separately for each income (and education) category, using the appropriate sample weights for the study and appropriately clustered standard errors to account for nonindependent observations, with child age held constant at 6 years. The intercept from this

model yielded an estimate of the probability of endorsing each parenting behavior within each income category for each study. Third, we regressed these estimated probabilities on a linear, quadratic, and cubic measure of income (and education) to allow for nonlinear relationships between SES and discipline strategies. For a full description of this method, see Reardon.¹⁹

The linear, quadratic, and cubic coefficients for income (and education) generated in this regression were used to estimate parenting behavior at the 90th, 50th, and 10th percentiles of household income (and education) distribution for each study. We then estimated the 90/10 income parenting gap by differencing the proportion of parents endorsing a behavior at the 90th and 10th percentiles of household income for each parenting item.¹⁹ Specifically, we calculated the 90/10 income-parenting gap as:

$$\begin{aligned} \hat{\delta}_{10}^{90} &= [\hat{Y} | \theta = .9] - [\hat{Y} | \theta = .1] \\ &= [\hat{a} + \hat{b}(.9) + \hat{c}(.81) + \hat{d}(.729)] \\ &\quad - [\hat{a} + \hat{b}(.1) + \hat{c}(.01) + \hat{d}(.001)] \\ &= .8\hat{b} + .8\hat{d} + .728\hat{d}, \end{aligned}$$

in which θ is the income percentile, \hat{b} is the linear income coefficient, \hat{c} is the quadratic, \hat{d} is the cubic, and \hat{a} is the intercept from the regression. The same process was applied to calculating the 90/50 and 50/10 income-parenting (and education-parenting) gaps. We repeated this process for each parenting item separately in each study. We formally tested for differences over time using a *t* test of the significant difference between any 2 data points, Bonferroni-adjusted for the 36 multiple comparisons tested (9 contrasts per 4 outcomes).

RESULTS

Endorsement of Physical Discipline/ Spanking

Over the entire period, the percentage of mothers endorsing physical discipline declined significantly (see Table 2). Specifically, the percentage reporting that they would hit or spank their kindergarten-age child in response to a child's misbehavior declined by 20 to 26 percentage points across income levels between 1988 and 2011. This shift occurred exclusively in the earlier period, between 1988 and 1997. Likewise, the percentage of mothers reporting that they spanked their child in the past week declined by 26 to 40 percentage points, with significant declines in both the early and later periods.

These declines emerged at all income levels (see Table 2). As a result, income-related gaps in the rates of endorsing physical discipline and spanking were stable (see Table 3). For instance, in 2011, mothers at the 90th income percentile were 18 percentage points less likely to report that they would physically punish their child in response to misbehavior than those in the 10th percentile, and 12 percentage points less likely to report spanking their child in the past week. These 90/10 gaps were 11 and 16 percentage points in 1988, not significantly different from those in 2011 (see Fig 1). Only results for income levels are detailed because results for the 90th, 50th, and 10th education levels were quite similar (see Supplemental Table 4 and 5). Thus, despite declines across SES in the endorsement and report of physical punishment, substantial SES-based gaps still existed in 2011.

Endorsement of Nonphysical Discipline

Whereas rates of endorsing physical discipline decreased, the percentage of mothers endorsing nonphysical

TABLE 2 Estimated Endorsement of Discipline Strategies by Income Percentile and Cohort

	1988		1997		1998		2011		Percentage Point Change 1988–2011	P	Percentage Point Change 1998–2011	P	Percentage Point Change 1988–1997	P
	SE		SE		SE		SE							
Physical punishment														
90	0.39	0.02	0.17	0.05	0.14	0.01	0.12	0.01	-0.26	*	-0.02	>.05	-0.22	*
50	0.46	0.01	0.23	0.05	0.21	0.01	0.21	0.01	-0.25	*	0.00	>.05	-0.23	*
10	0.50	0.02	0.46	0.09	0.29	0.01	0.30	0.01	-0.20	*	0.01	>.05	-0.04	>.05
Spanked in past week														
90	0.42	0.02	0.14	0.10	0.19	0.01	0.10	0.01	-0.31	*	-0.09	*	-0.28	*
50	0.54	0.02	0.00	0.06	0.27	0.01	0.15	0.01	-0.38	*	-0.11	*	-0.54	*
10	0.58	0.02	0.47	0.19	0.37	0.01	0.22	0.01	-0.35	*	-0.15	*	-0.11	>.05
Time-out/send to room														
90	0.50	0.02	0.80	0.03	0.74	0.01	0.85	0.01	0.36	*	0.11	*	0.30	*
50	0.41	0.02	0.68	0.04	0.66	0.01	0.81	0.01	0.40	*	0.15	*	0.27	*
10	0.45	0.02	0.62	0.06	0.51	0.01	0.71	0.01	0.26	*	0.20	*	0.17	>.05
Talk to child														
90	0.83	0.01	0.82	0.02	0.77	0.01	0.86	0.01	0.04	>.05	0.09	*	-0.01	>.05
50	0.78	0.01	0.80	0.02	0.75	0.01	0.86	0.01	0.08	*	0.11	*	0.02	>.05
10	0.71	0.02	0.82	0.03	0.71	0.01	0.85	0.01	0.14	*	0.14	*	0.11	*

* $P < .05$.

discipline strategies increased over time (Table 2). Specifically, the percentage of mothers reporting that they would give their child a time-out or send them to their rooms in response to misbehavior increased by 26 to 40 percentage points across income levels between 1988 and 2011, with significant increases in both early and later periods. Likewise, the percentage of mothers who said they would talk to their child increased significantly, albeit to a lesser degree (between 4 and 14 percentage points) and mostly in the later period. This smaller increase is likely attributable to higher base rates of endorsement of talking to children in 1988, which ranged from 71 to 83%.

Although mothers across the income distribution increased their endorsement of nonphysical discipline, income-based gaps in this measure grew between 1988 and 2011 (Table 3). For example, the 90/10 gap equaled 14 percentage points in 2011, up from 5 percentage points in 1988; however, the gap narrowed between 1998 and 2011, suggesting a possible reversal of this trend (see Fig 2). Moreover, the income-based gaps in talking to children in response to misbehavior decreased such that by 2011 no significant income-based gaps existed. Results for the 90th, 50th, and 10th education levels were similar (see Supplemental Table 4 and 5).

DISCUSSION

The 1998 AAP policy statement urged parents against the use of corporal punishment and encouraged the use of nonphysical discipline strategies such as time-outs.¹⁶ At the time, popular support for physical discipline was in decline, and the popularity of nonphysical discipline strategies, such as time-outs, was rising.^{13,14} The current study suggests that these cultural shifts reflect

TABLE 3 Estimated Income Percentile Gaps in Discipline Strategies by Cohort

	1988		1997		1998		2011		Percentage Point Change 1988–2011	P	Percentage Point Change 1988–1997	P
	SE		SE		SE		SE					
Physical punishment												
90–10	-0.11	0.02	-0.29	0.10	-0.15	0.01	-0.18	0.01	0.07	>.05	0.03	>.05
90–50	-0.07	0.02	-0.06	0.07	-0.07	0.01	-0.09	0.01	-0.02	>.05	0.01	>.05
50–10	-0.04	0.02	-0.23	0.11	-0.07	0.01	-0.09	0.02	0.05	>.05	0.02	>.05
Spanked in past week												
90–10	-0.16	0.03	-0.33	0.21	-0.18	0.02	-0.12	0.01	-0.04	>.05	-0.06	>.05
90–50	-0.12	0.03	0.14	0.13	-0.08	0.01	-0.05	0.01	-0.07	>.05	-0.02	>.05
50–10	-0.04	0.03	-0.47	0.21	-0.11	0.02	-0.07	0.01	0.03	>.05	-0.04	>.05
Time-out/send to room												
90–10	0.05	0.03	0.18	0.07	0.23	0.01	0.14	0.01	0.09	*	-0.09	*
90–50	0.09	0.03	0.12	0.05	0.08	0.01	0.05	0.01	-0.04	>.05	-0.03	>.05
50–10	-0.04	0.03	0.06	0.08	0.15	0.01	0.09	0.01	0.13	*	-0.06	*
Talk to child												
90–10	0.12	0.02	0.00	0.03	0.06	0.01	0.01	0.01	-0.11	*	-0.05	*
90–50	0.05	0.02	0.02	0.03	0.02	0.01	0.00	0.01	-0.05	>.05	-0.02	>.05
50–10	0.07	0.02	-0.02	0.03	0.04	0.01	0.01	0.01	-0.06	>.05	-0.04	>.05

* $P < .05$.

real changes in the way parents discipline children. Our results also show changes in discipline strategies before and after 1998, suggesting the AAP statement reflected and possibly catalyzed these shifts. Most notably, these changes have occurred at all socioeconomic levels, producing a significant reduction in SES-based differences for some discipline strategies.

By 2011, a minority of parents at all income and education levels endorsed physically disciplining a child in response to misbehavior and an even smaller minority reported using this strategy in the past week. By contrast, the vast majority of parents by that time, at all income and education levels, endorsed nonphysical discipline or talking with children. The decrease in corporal punishment, and increase in alternative strategies, was roughly equal across the SES distribution over the entire period for all behaviors except talking to children, for which the bottom 10th percentile increased their endorsement more than the middle or top of the income (and education) distribution, effectively closing the SES-based gap in talking as a response to misbehavior. The proportion of mothers endorsing physical discipline was lower in this study than in the 1986 - 2014 General Social Survey,²⁰ likely because it asks about parenting attitudes in broad circumstances—do you agree that “it is sometimes necessary to give a child a good, hard spanking”—whereas our study asks about parents’ behavior in specific circumstances.¹⁴ However, in both our study and the General Social Survey, endorsement of physical discipline declined over the period.

The data have limitations to consider before drawing firm conclusions. First, the 1988/1990 NLSY sample is relatively disadvantaged, a bias that

may lead to an underestimate of the SES-based gaps in the endorsement of corporal punishment because the income distribution is truncated. Second, the PSID sample is relatively small, resulting in less precise estimates for 1997. These issues may explain why SES-based gaps in physical discipline and spanking appear to increase between 1988 and 1997 and then decline almost as much between 1997 and 2011. Additionally, the response category of “talk to child” has a potentially ambiguous meaning. Parents were not asked to specify what they said to children, so it is possible their “talk” did not involve reasoning. Additionally, because these data are self-reported, parents’ responses may reflect desirability bias rather than actual behaviors. If so, changes over time may reflect changes in cultural norms around discipline but not changes in parenting practices. However, official maltreatment reporting in the United States indicates a 55% decline in physical abuse since 1990,²¹ suggesting the changes in physical discipline endorsement reported here reflect changes in actual behavior. Finally, fathers are more likely to endorse corporal punishment than mothers,¹⁴ thus our estimates of SES-based gaps in mothers’ discipline strategies may not apply to them.

CONCLUSIONS

Findings suggest parents’ use of corporal punishment has declined substantially over the past quarter century, whereas the use of nonphysical discipline has increased, with SES-based gaps in the latter narrowing in recent years. Despite these positive trends, it is important to note that nearly one-third of mothers at the bottom of the income distribution still endorse physically disciplining kindergarten-age children, and nearly one-quarter report doing so in the past week.

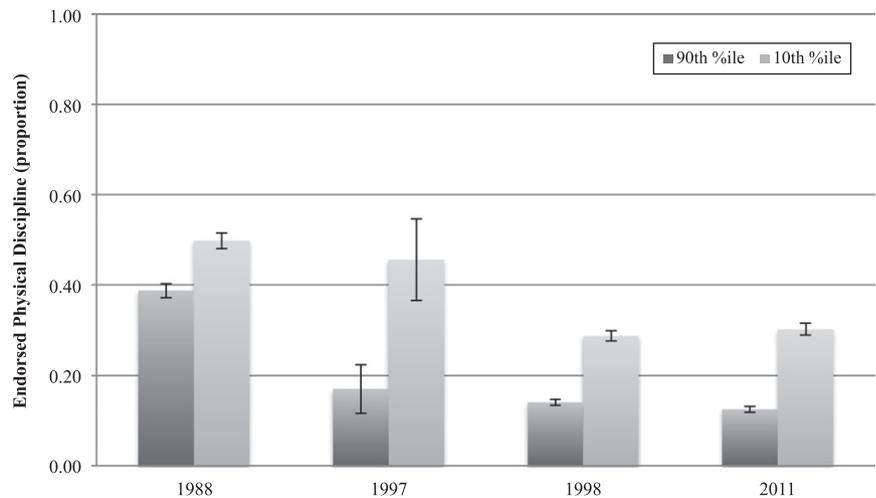


FIGURE 1
Proportion of mothers endorsing physical discipline by survey year.

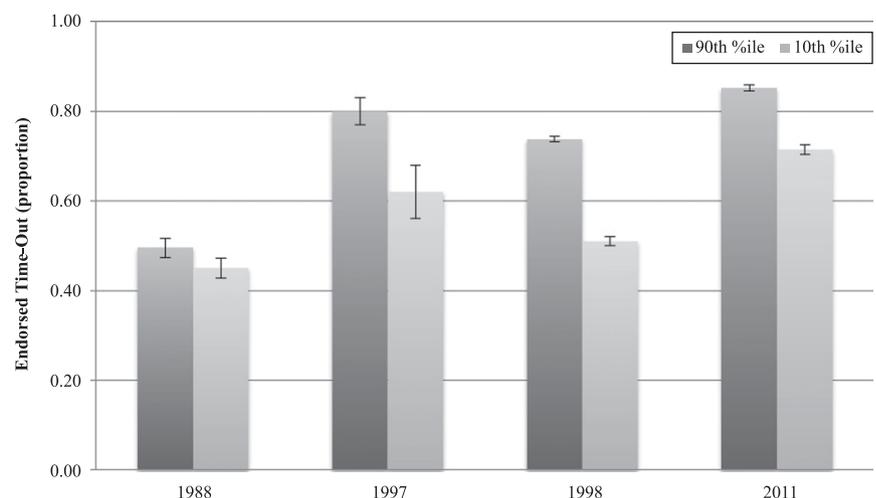


FIGURE 2
Proportion of mothers endorsing time-out by survey year.

These rates are alarmingly high when considering the potential for corporal punishment to escalate into abuse^{22,23} and links—albeit correlational—between corporal punishment and negative child socioemotional outcomes.¹⁰ Strategies to further reduce reliance on corporal punishment in lower SES families could include encouraging the use of nonphysical approaches such as time-out, positive reinforcement, and selective inattention in home visiting programs, as well as raising public awareness about the negative effects, and relative ineffectiveness, of physical discipline.

ABBREVIATIONS

AAP: American Academy of Pediatrics
 NLSY: National Longitudinal Survey of Youth
 Maternal and Child Supplement:
 PSID: Panel Study of Income Dynamics
 Child Development Supplement:
 ECLS-K: Early Childhood Longitudinal Study
 Kindergarten Cohort 1998: 1999
 ECLS-K:2011: Early Childhood Longitudinal Study
 Kindergarten Cohort 2010: 2011
 SES: socioeconomic status

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