

# Physical Punishment and Mental Disorders: Results From a Nationally Representative US Sample

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## KEY WORDS

child abuse, child neglect, mental disorders, mental health, personality disorders

## ABBREVIATIONS

aOR—adjusted odds ratio

CI—confidence interval

NESARC—National Epidemiologic Survey on Alcohol and Related Conditions

PAF—population-attributable fraction

Drs Afifi and Sareen contributed to the development of the research questions, design of the study, supervision of the analysis, interpretation of the data, writing of the manuscript, and revising of the manuscript; Ms Mota and Dasiewicz contributed to the development of the research questions, design of the study, data analysis, interpretation of the data, writing of the manuscript, and revising of the manuscript; and Dr MacMillan contributed to the theoretical rationale for the study, expert consultation regarding physical punishment terminology used in the manuscript, consultation on statistical models, manuscript revisions, and writing of the revised manuscript.

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**WHAT'S KNOWN ON THIS SUBJECT:** Physical punishment is associated with aggression, delinquency, and internalizing conditions in childhood, as well as a range of Axis I mental disorders in adulthood. More research is needed on the possible long-term relationship between physical punishment and mental health.



**WHAT THIS STUDY ADDS:** To our knowledge, this is the first nationally representative examination of physical punishment and a range of Axis I and II disorders, gender interactions, and proportion of mental disorders in the general population that may be attributable to physical punishment.

## abstract

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**BACKGROUND:** The use of physical punishment is controversial. Few studies have examined the relationship between physical punishment and a wide range of mental disorders in a nationally representative sample. The current research investigated the possible link between harsh physical punishment (ie, pushing, grabbing, shoving, slapping, hitting) in the absence of more severe child maltreatment (ie, physical abuse, sexual abuse, emotional abuse, physical neglect, emotional neglect, exposure to intimate partner violence) and Axis I and II mental disorders.

**METHODS:** Data were from the National Epidemiologic Survey on Alcohol and Related Conditions collected between 2004 and 2005 ( $N = 34\,653$ ). The survey was conducted with a representative US adult population sample (aged  $\geq 20$  years). Statistical methods included logistic regression models and population-attributable fractions.

**RESULTS:** Harsh physical punishment was associated with increased odds of mood disorders, anxiety disorders, alcohol and drug abuse/dependence, and several personality disorders after adjusting for sociodemographic variables and family history of dysfunction (adjusted odds ratio: 1.36–2.46). Approximately 2% to 5% of Axis I disorders and 4% to 7% of Axis II disorders were attributable to harsh physical punishment.

**CONCLUSIONS:** Harsh physical punishment in the absence of child maltreatment is associated with mood disorders, anxiety disorders, substance abuse/dependence, and personality disorders in a general population sample. These findings inform the ongoing debate around the use of physical punishment and provide evidence that harsh physical punishment independent of child maltreatment is related to mental disorders. *Pediatrics* 2012;130:1–9

Physical punishment (also referred to as spanking, smacking, and corporal punishment) involves acts of hitting a child as a means of discipline. The parent or caregiver's right to use physical punishment has currently been abolished in 32 nations; Canada and the United States are not included among these countries.<sup>1</sup> Physical punishment has been a commonly used method of discipline in North America and is considered socially acceptable by many caregivers.<sup>2,3</sup> In a US sample of the Carolinas, for example, 46% of mothers reported slapping or spanking in the past year.<sup>4</sup> An examination of nationally representative US data indicated that 48% of adults retrospectively reported a history of physical punishment (having something thrown at them or being pushed, grabbed, shoved, slapped, or spanked) without having experienced more severe physical or sexual abuse.<sup>5</sup>

It is well established that child maltreatment (ie, physical abuse, sexual abuse, emotional maltreatment, physical and emotional neglect) is associated with adult Axis I and II mental disorders.<sup>6–17</sup> Evidence about the negative long-term outcomes associated with child maltreatment could provide insights into understanding why physical punishment is associated with impairment and provides the theoretical perspective for the current study.<sup>18</sup> Although only a few representative studies have been conducted on the relationship between physical punishment and specific mental disorders, theoretically similar associations found in the child maltreatment literature would be expected for physical punishment because physical punishment and child maltreatment are not separate and unrelated dichotomies but rather varying degrees of physical force used on children found along a continuum of increasing severity ranging from no physical acts to severe child maltreatment.<sup>2,5,19</sup> It is also important to recognize that there can be

considerable overlap between the 2 types of exposure; depending on the age, developmental stage, and level of force used, there is considerable agreement that certain types of physical punishment constitute abuse (eg, spanking an infant aged <6 months or a teenager). The literature from the past 20 years indicates that the associated impairments of physical punishment are broad and enduring,<sup>20</sup> just like the broad associations found in the literature on child maltreatment. In addition, perhaps the experience of physical punishment, even if not “physically abusive,” may generate acute or chronic stress through experiences of anxiety, fear, and shame, among others, that are associated with physiologic and emotional dysregulation<sup>21</sup> and characteristic of a range of Axis I and II psychopathologic conditions. As with maltreatment, genetic variability may account for some of the differences in specific impairment associated with exposure.<sup>22–24</sup>

Reviews of the literature have indicated that physical punishment is related to higher levels of aggression, delinquency, and internalizing conditions in addition to lower levels of internalizing morals and overall mental health.<sup>25,26</sup> There is some evidence that physical punishment is also associated with immediate compliance.<sup>24,25</sup> Many studies have found a link between physical punishment and poor child and adolescent social, emotional, cognitive, developmental, and behavioral problems or impairment.<sup>27–33</sup> There is also evidence for an association between physical punishment and poor adult mental health outcomes. For example, physical punishment has been associated with depressive symptoms in US college samples.<sup>34–36</sup> Results from a US community survey indicated that physical punishment in the teenage years significantly increased the likelihood of depression, suicidal thoughts, and alcohol abuse in adulthood.<sup>2</sup> Similarly, 2 other studies involving representative

adult samples found that physical punishment was associated with adult depression,<sup>5</sup> anxiety disorders,<sup>19</sup> alcohol abuse/dependence,<sup>5,19</sup> and externalizing problems<sup>5,19</sup> independent of the effects of child physical or sexual abuse.

Despite increasing evidence regarding the impairment associated with physical punishment, some researchers suggest that the findings linking physical punishment with harmful outcomes are based on flawed studies with weaknesses in design, measurement, and analysis, including the lack of statistical adjustment for confounding factors.<sup>37–39</sup> An important consideration in this research is accounting for the confounding effects of child maltreatment. In addition, gender may have a moderating effect on physical punishment with regard to mental disorders, as is the case for child maltreatment.<sup>14</sup> Furthermore, poor parental mental health may be a possible confounding factor requiring statistical adjustment in the relationship between physical punishment and mental disorders. Lower levels of parental emotional well-being have been associated with an increased likelihood of spanking young children,<sup>40</sup> and parental mental disorders may increase the likelihood of mental disorders among offspring.<sup>41</sup>

To our knowledge, there have been no examinations of the link between physical punishment and a broad range of mental health disorders in a nationally representative sample controlling for several types of child maltreatment. Previous studies have not considered the proportion of mental disorders in the general population that may be attributable to physical punishment alone without experiencing more severe forms of child maltreatment. Such information would be useful for pediatricians and other health care providers to consider when making recommendations to parents on the use of physical punishment.

The main objectives for the current study were to determine if physical punishment increases the likelihood of having Axis I and II mental disorders and what proportion of mental disorders in the general population is attributable to physical punishment. It was hypothesized that a history of physical punishment would be linked to Axis I and II mental disorders, a significant proportion of mental disorders would be attributable to physical punishment independent of child maltreatment and other family history of dysfunction, and that gender would be a moderator in these noted relationships. The current study addresses important limitations of previous research: (1) the effect of physical punishment was examined in the absence of child maltreatment; (2) a range of Axis I and II mental disorders previously not considered were included; (3) the proportion of mental disorders that may be attributable to physical punishment was estimated; and (4) a large nationally representative sample was used that allowed for the examination of gender as a possible moderator. Notably, this is the first nationally representative examination of physical punishment and Axis II personality disorders.

## METHODS

### Survey

The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) involves a representative sample of civilian, noninstitutionalized adults residing in the United States. Data for the current study came from the second wave of the NESARC collected between 2004 and 2005. This survey included adults ages  $\geq 20$  years living in households and various noninstitutional group dwellings ( $N = 34\ 653$ ). Survey interviews were conducted face-to-face by trained lay interviewers of the US Census Bureau, and the response rate was 86.7%. Additional details of the NESARC have been described elsewhere.<sup>42</sup>

## Measures

### *Harsh Physical Punishment and Child Maltreatment*

Childhood physical punishment was assessed as part of a range of childhood maltreatment experiences (events occurring before age 18 years) that were included in the NESARC. These questions were adapted from those used in the Adverse Childhood Experiences Study,<sup>43,44</sup> which consisted of a subset of items from the Conflict Tactics Scale<sup>45,46</sup> and the Childhood Trauma Questionnaire.<sup>47</sup> Most questions were based on a 5-point Likert scale (never, almost never, sometimes, fairly often, and very often). The types of child maltreatment that were assessed included physical punishment, physical abuse, emotional abuse, sexual abuse, emotional neglect, physical neglect, and exposure to intimate partner violence (eg, having a battered mother). The questions used in assessing emotional neglect used a different 5-point Likert scale (never true, rarely true, sometimes true, often true, and very often true).

Physical punishment was assessed with the question, "As a child how often were you ever pushed, grabbed, shoved, slapped or hit by your parents or any adult living in your house?" Respondents who reported an answer of "sometimes" or greater to this event were considered as having experienced harsh physical punishment. The term harsh physical punishment was used for this study because the measure includes acts of physical force beyond slapping, which some may consider more severe than "customary" physical punishment (ie, spanking). Furthermore, to ensure that physical punishment was considered in the absence of more severe child maltreatment, respondents who endorsed severe physical abuse, sexual abuse, emotional abuse, physical neglect, emotional neglect, or exposure to intimate partner violence were excluded from the current sample. Severe

physical abuse was defined as being hit so hard it left marks, bruises, or caused an injury. Sexual abuse was defined as any unwanted sexual touching or fondling, attempted intercourse, or actual intercourse by any adult or other person that was unwanted or occurred when the respondent was too young to understand what was happening. Emotional abuse was defined as the following acts occurring fairly often or very often: being sworn at or insulted, threatening to have something thrown at the respondent, or any other act that made the respondent afraid. Physical neglect included being left unsupervised when too young or going without needed clothing, school supplies, food, or medical treatment. Emotional neglect was defined as not being in a close-knit family or having a family member make the respondent feel special, provide strength or support, or want them to succeed. Exposure to intimate partner violence was defined as having a mother who was physically abused, including acts such as hitting, slapping, repeatedly being hit for several minutes, or being threatened with a knife or gun.

### *Sociodemographic Covariates*

The sociodemographic variables included as covariates in logistic regression models were as follows: gender, age (continuous variable), marital status (married/living common law, separated/divorced/widowed, and never married/single), race/ethnicity (Hispanic, non-Hispanic white, non-Hispanic black, non-Hispanic American Indian/Alaska Native, non-Hispanic Hawaiian/Pacific Islander), level of education (continuous variable), and past year household income (continuous variable).

### *Family History of Dysfunction*

Family history of dysfunction was assessed with questions based on the Adverse Childhood Experiences Study.<sup>43,44</sup> Family history of dysfunction included whether a parent or other adult in the

household had 1 or more of the following: (1) had a problem with alcohol or drugs; (2) went to jail or prison; (3) was treated or hospitalized for a mental illness; (4) attempted suicide; and/or (5) died by suicide.

### Axis I and Axis II Disorders

Lifetime diagnoses of Axis I and Axis II disorders were made by using the Alcohol Use Disorder and Associated Disabilities Interview Schedule IV,<sup>48,49</sup> a fully structured interview that has been shown to be both valid and reliable.<sup>50,51</sup> Axis I disorders included major depression, dysthymia, mania, hypomania, any mood disorder, panic disorder with or without agoraphobia, social phobia, specific phobia, generalized anxiety disorder, posttraumatic stress disorder, agoraphobia, any anxiety disorder, any alcohol abuse/dependence, and any drug abuse/dependence. Axis II personality disorders were examined individually and in clusters. Clusters included the presence of 1 or more individual personality disorder and were divided as follows: cluster A (paranoid, schizoid, schizotypal), cluster B (antisocial, histrionic, borderline, narcissistic), and cluster C (avoidant, dependent, obsessive-compulsive). These clusters are based on *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* classification determined by similarities of symptoms.<sup>52</sup>

### Statistical Analysis

Statistical weights were applied in all analyses to ensure that the NESARC data were representative of the general US population. To account for the complex survey design of the NESARC, Taylor series linearization was used as a variance estimation technique by using SUDAAN software Version 10.<sup>53</sup> First, descriptive statistics and logistic regressions were computed to understand the sociodemographic distribution of the sample. Second, logistic regression

models were computed to understand the relationship between physical punishment (without experiencing child maltreatment) and Axis I and II mental disorders. Models were first adjusted for sociodemographic variables (adjusted odds ratio [aOR-1]) and then further adjusted for family history of dysfunction (aOR-2). Third, population-attributable fractions (PAFs) were calculated for each significant association between physical punishment and mental disorders for the most adjusted models. PAFs represent an estimate of the proportion of the outcome that would be decreased if the exposure had not occurred.<sup>54</sup>

Finally, gender differences according to physical punishment interactions were examined in relation to Axis I and II disorders. Data provided include 99.9% confidence intervals (CIs) for all models. *P* values of <.01 are also provided.

## RESULTS

The prevalence of harsh physical punishment alone without experiencing more severe child maltreatment was 5.9%. Table 1 presents the sociodemographic distribution among the harsh physical punishment and no physical punishment groups. Females compared with males were less likely to experience harsh physical punishment. Compared with being white, black individuals had increased odds of harsh physical punishment, whereas Asian, Native Hawaiian, and other Pacific Islander respondents had decreased odds of experiencing harsh physical punishment. Increases in education level and income level were both associated with increased odds of harsh physical punishment. Marital status categories and mean age did not differ in the nonphysical punishment group versus the harsh physical punishment group. Finally, individuals with a family history of dysfunction were more likely to experience harsh physical punishment. Table 2 presents the

relationships between harsh physical punishment and Axis I disorders. In the models adjusted for sociodemographic variables, harsh physical punishment was associated with an increased likelihood of most lifetime mental disorders, including major depression, dysthymia, mania, any mood disorder, specific phobia, any anxiety disorder, and any alcohol and drug abuse or dependence (aOR-1: 1.36–2.08). All of these relationships remained significant after further adjusting for any family history of dysfunction, with the exception of social phobia (aOR-2: 1.36–1.93). PAFs for this latter statistical model ranged from 2.1% for any anxiety disorder to 5.2% for mania. There were no significant gender by harsh physical punishment interactions for Axis I disorders.

Table 3 shows the associations between harsh physical punishment and Axis II disorders. In the statistical model adjusted for sociodemographic variables, harsh physical punishment was associated with an increased likelihood of several individual personality disorders (aOR-1: 1.63–2.46), as well as any cluster A and B disorder diagnosis (aOR-1: 1.82–1.94). When models were additionally adjusted for any family history of dysfunction, the relationships between harsh physical punishment and schizoid and obsessive-compulsive personality disorders no longer reached statistical significance. PAFs ranged from 4.2% for any Cluster A disorder to 7.2% for schizotypal personality disorder. There were no significant gender by harsh physical punishment interactions.

## DISCUSSION

The current findings advance our knowledge of the relationship between harsh physical punishment and mental disorders in several novel ways. First, the findings indicate that harsh physical punishment in the absence of child maltreatment is associated with increased odds of having several lifetime Axis I and II



**TABLE 1** Sociodemographic Profile of Respondents Without and With Physical Punishment

Characteristic	No Physical Punishment ( <i>n</i> = 19 349; 94.1% [93.7–94.5])	Physical Punishment ( <i>n</i> = 1258; 5.9% [5.5–6.3])	Odds Ratio (99.9% CI)
Gender			
Male	8110 (47.7)	663 (59.4)	1.00
Female	11 249 (52.3)	595 (40.6)	0.62 (0.50–0.79)***
Marital status			
Married/cohabitating	10 739 (64.3)	744 (69.0)	1.00
Widowed/divorced/separated	4837 (17.7)	281 (15.2)	0.80 (0.61–1.05)**
Never married	3773 (18.0)	233 (15.9)	0.82 (0.59–1.14)
Race/ethnicity			
White	11 712 (73.1)	738 (72.1)	1.00
Black	3432 (10.1)	300 (14.7)	1.47 (1.01–2.16)***
American Indian/Alaska Native	262 (1.8)	14 (1.9)	1.06 (0.34–3.35)
Asian/Native Hawaiian/Other Pacific Islander	563 (4.4)	12 (1.4)	0.31 (0.13–0.74)***
Hispanic	3380 (10.6)	194 (10.0)	0.95 (0.63–1.44)
Education			
Less than high school	2820 (12.7)	139 (8.8)	1.00
High school	5334 (27.5)	347 (29.0)	1.53 (1.01–2.32)***
Some college	3989 (21.0)	300 (23.1)	1.59 (1.07–2.37)***
Completed postsecondary degree	7206 (38.8)	472 (39.2)	1.47 (0.99–2.17)**
Past year household income, \$			
≤19 999	4228 (17.3)	183 (11.4)	1.00
20 000–39 999	4894 (23.7)	299 (21.9)	1.40 (0.96–2.05)**
40 000–69 999	4978 (27.1)	352 (29.0)	1.63 (1.10–2.42)***
>70 000	5249 (31.9)	424 (37.7)	1.79 (1.26–2.57)***
Any family history of dysfunction			
No	16 257 (84.2)	937 (75.6)	1.00
Yes	3075 (15.9)	320 (24.4)	1.71 (1.28–2.29)***
Age, mean ± SE, y	48.4 ± 0.21	48.7 ± 0.69	1.00 (0.99–1.01)

Data are presented as *n* (%) or mean ± SE. All *n* values were unweighted, and all percentages were weighted.

\*\*\* *P* < .001;

\*\* *P* < .01.

disorders after adjusting for socio-demographic variables and family history of dysfunction. Second, an approximate reduction of 2% to 5% for Axis I disorders and 4% to 7% for Axis II disorders may be noted in the general population if harsh physical punishment in the absence of child maltreatment did not occur.

The prevalence of harsh physical punishment in this study (~6%) was lower compared with other general population samples (48%–80%),<sup>5,19</sup> likely due to inclusion of physical acts harsher than spanking alone, stricter inclusion criteria for physical punishment including occurrence of at least sometimes or greater (ie, not including rare frequency), and only including physical punishment cases in the absence of several types of more severe child maltreatment. A

surprising finding was that increases in education and income were associated with elevated odds of harsh physical punishment. Past research on physical punishment and Axis I disorders has found significant links with physical punishment and depression, anxiety disorders, substance abuse/dependence, and externalizing disorders.<sup>2,5,19</sup> Findings from this study are consistent with past research but expand the types of impairment to include several additional Axis I disorders as well as Axis II personality disorders.

The estimated PAFs for harsh physical punishment and Axis I and II disorders were relatively small in size, but they still contribute to a significant proportion of mental disorders in the general population. More specifically, the

results indicate that if harsh physical punishment did not occur, the prevalence of Axis I and II disorders might have been reduced by ~2% to 7%.

Findings from this research should be considered in light of several important limitations. First, the cross-sectional design precludes determining any causal inferences in the relationship between harsh physical punishment and mental disorders. Second, data on harsh physical punishment and child maltreatment were collected retrospectively, which may introduce some sampling error due to recall and reporting bias. However, there is evidence that supports the validity of accurate recall of adverse childhood events<sup>55</sup> and that psychopathology is not linked to less reliable or less valid self-reported data on adverse childhood experiences.<sup>56</sup> Finally, the measure of parental psychopathology relied on the respondent's retrospective recall and understanding of a parent having problems with alcohol or drugs or being treated or hospitalized for mental illness. Confirmation through clinical records or data collected from the parents would have improved the research design. Longitudinal and prospective data collection in a representative general population sample would generate data that could improve on these noted limitations of the current study.

These research findings have several important implications for clinical practice and policy. First, it is important for pediatricians and other health care providers who work with children and parents to be aware of the link between physical punishment and mental disorders based on this study, which adds to the growing literature about the adverse outcomes associated with exposure to physical punishment. The American Academy of Pediatrics strongly opposes striking a child for any reason,<sup>57</sup> and the Canadian Pediatric Society recommends that physicians strongly

**TABLE 2** Associations Between Physical Punishment and Axis I Mental Disorders

Psychiatric Disorders	No Physical Punishment ( <i>n</i> = 19 349; 94.1% [93.3–94.8])	Physical Punishment ( <i>n</i> = 1258; 5.9% [5.2–6.7])	PAF (99.9% CI)	Gender by Physical Punishment Interactions
Major depression				
<i>n</i> (%)	3259 (16.1)	261 (19.8)	—	—
aOR-1 (99.9% CI)	1.00	1.48 (1.09–2.01)***	—	—
aOR-2 (99.9% CI)	1.00	1.41 (1.03–1.92)***	2.4 (0.2–5.1)	1.28 (0.67–2.43)
Dysthymia				
<i>n</i> (%)	632 (3.0)	60 (4.6)	—	—
aOR-1 (99.9% CI)	1.00	1.78 (0.95–3.34)**	—	—
aOR-2 (99.9% CI)	1.00	1.70 (0.89–3.23)**	—	0.95 (0.23–3.97)
Mania				
<i>n</i> (%)	569 (2.9)	61 (5.3)	—	—
aOR-1 (99.9% CI)	1.00	2.08 (1.18–3.66)***	—	—
aOR-2 (99.9% CI)	1.00	1.93 (1.07–3.48)***	5.2 (0.4–12.8)	0.85 (0.26–2.75)
Hypomania				
<i>n</i> (%)	573 (2.9)	44 (3.2)	—	—
aOR-1 (99.9% CI)	1.00	1.24 (0.68–2.25)	—	—
aOR-2 (99.9% CI)	1.00	1.23 (0.67–2.25)	—	1.07 (0.29–3.93)
Any mood disorder				
<i>n</i> (%)	3840 (19.1)	320 (24.4)	—	—
aOR-1 (99.9% CI)	1.00	1.56 (1.17–2.08)***	—	—
aOR-2 (99.9% CI)	1.00	1.49 (1.11–2.00)***	2.8 (0.6–5.6)	1.15 (0.65–2.04)
Panic disorder with or without agoraphobia				
<i>n</i> (%)	1003 (5.2)	80 (6.0)	—	—
aOR-1 (99.9% CI)	1.00	1.32 (0.78–2.22)	—	—
aOR-2 (99.9% CI)	1.00	1.24 (0.74–2.10)	—	1.65 (0.56–4.86)
Social phobia				
<i>n</i> (%)	952 (5.0)	73 (5.5)	—	—
aOR-1 (99.9% CI)	1.00	1.20 (0.74–1.96)	—	—
aOR-2 (99.9% CI)	1.00	1.13 (0.69–1.85)	—	0.67 (0.24–1.82)
Specific phobia				
<i>n</i> (%)	2496 (12.3)	199 (14.7)	—	—
aOR-1 (99.9% CI)	1.00	1.36 (1.00–1.85)***	—	—
aOR-2 (99.9% CI)	1.00	1.31 (0.96–1.79)**	—	0.97 (0.49–1.91)
General anxiety disorder				
<i>n</i> (%)	1015 (5.2)	83 (7.0)	—	—
aOR-1 (99.9% CI)	1.00	1.58 (0.94–2.65)**	—	—
aOR-2 (99.9% CI)	1.00	1.50 (0.89–2.51)**	—	1.21 (0.37–3.90)
PTSD				
<i>n</i> (%)	805 (3.7)	64 (4.1)	—	—
aOR-1 (99.9% CI)	1.00	1.22 (0.76–1.96)	—	—
aOR-2 (99.9% CI)	1.00	1.17 (0.73–1.88)	—	1.46 (0.49–4.32)
Any anxiety disorder <sup>a</sup>				
<i>n</i> (%)	4477 (22.3)	355 (26.7)	—	—
aOR-1 (99.9% CI)	1.00	1.41 (1.09–1.83)***	—	—
aOR-2 (99.9% CI)	1.00	1.36 (1.05–1.77)***	2.1 (0.3–4.3)	1.08 (0.62–1.89)
Any alcohol abuse or dependence				
<i>n</i> (%)	5461 (30.2)	515 (43.2)	—	—
aOR-1 (99.9% CI)	1.00	1.65 (1.25–2.17)***	—	—
aOR-2 (99.9% CI)	1.00	1.59 (1.21–2.08)***	3.4 (1.2–6.0)	1.04 (0.60–1.79)
Any drug dependence or abuse				
<i>n</i> (%)	1359 (8.7)	160 (12.9)	—	—
aOR-1 (99.9% CI)	1.00	1.61 (1.12–2.32)***	—	—
aOR-2 (99.9% CI)	1.00	1.53 (1.06–2.20)***	3.0 (0.4–6.6)	1.07 (0.46–2.48)

All *n* values were unweighted, and all percentages were weighted. aOR-1, adjusted for gender, age, marital status, race/ethnicity, education, and household income; aOR-2, adjusted for age, marital status, race/ethnicity, education, household income, and any family history of dysfunction; PTSD, posttraumatic stress disorder.

<sup>a</sup> Agoraphobia was included in the any anxiety disorder and any mental disorder summary variables. However, it was not analyzed in relation to physical punishment individually due to a cell size <5.

\*\*\* *P* ≤ .001;

\*\* *P* ≤ .01.

**TABLE 3** Associations Between Physical Punishment and Axis II Disorders

Psychiatric Disorder	No Physical Punishment or Child Maltreatment ( <i>n</i> = 19 349; 94.1% [93.3–94.8])	Physical Punishment Without Child Maltreatment ( <i>n</i> = 1258; 5.9% [5.2–6.7])	PAF (99.9% CI)	Gender by Physical Punishment Interactions
Paranoid personality disorder				
<i>n</i> (%)	532 (2.5)	56 (3.4)	—	—
aOR-1 (99.9% CI)	1.00	1.45 (0.78–2.70)	—	—
aOR-2 (99.9% CI)	1.00	1.39 (0.74–2.62)	—	1.00 (0.29–3.48)
Schizoid personality disorder				
<i>n</i> (%)	417 (1.9)	53 (3.6)	—	—
aOR-1 (99.9% CI)	1.00	1.88 (1.02–3.46)***	—	—
aOR-2 (99.9% CI)	1.00	1.80 (0.97–3.33)**	—	1.39 (0.38–5.06)
Schizotypal personality disorder				
<i>n</i> (%)	368 (1.7)	49 (3.9)	—	—
aOR-1 (99.9% CI)	1.00	2.46 (1.32–4.57)***	—	—
aOR-2 (99.9% CI)	1.00	2.31 (1.24–4.31)***	7.2 (1.4–16.3)	0.81 (0.22–2.97)
Any cluster A personality disorder				
<i>n</i> (%)	1116 (5.3)	127 (8.8)	—	—
aOR-1 (99.9% CI)	1.00	1.82 (1.18–2.81)***	—	—
aOR-2 (99.9% CI)	1.00	1.74 (1.13–2.69)***	4.2 (0.8–9.1)	0.81 (0.34–1.92)
Antisocial personality disorder				
<i>n</i> (%)	333 (1.9)	46 (4.1)	—	—
aOR-1 (99.9% CI)	1.00	2.06 (1.06–3.98)***	—	—
aOR-2 (99.9% CI)	1.00	1.98 (1.03–3.82)***	5.5 (0.2–14.3)	0.91 (0.16–5.09)
Borderline personality disorder				
<i>n</i> (%)	543 (2.7)	70 (4.7)	—	—
aOR-1 (99.9% CI)	1.00	1.97 (1.13–3.44)***	—	—
aOR-2 (99.9% CI)	1.00	1.82 (1.04–3.20)***	4.6 (0.2–11.5)	1.23 (0.41–3.70)
Histrionic personality disorder				
<i>n</i> (%)	207 (1.0)	22 (1.7)	—	—
aOR-1 (99.9% CI)	1.00	1.89 (0.78–4.59)	—	—
aOR-2 (99.9% CI)	1.00	1.83 (0.74–4.52)	—	0.83 (0.12–5.78)
Narcissistic personality disorder				
<i>n</i> (%)	789 (3.7)	104 (7.3)	—	—
aOR-1 (99.9% CI)	1.00	1.91 (1.17–3.12)***	—	—
aOR-2 (99.9% CI)	1.00	1.84 (1.13–3.00)***	4.7 (0.8–10.6)	1.28 (0.48–3.36)
Any cluster B personality disorder				
<i>n</i> (%)	1520 (7.7)	190 (13.9)	—	—
aOR-1 (99.9% CI)	1.00	1.94 (1.31–2.88)***	—	—
aOR-2 (99.9% CI)	1.00	1.85 (1.25–2.74)***	4.8 (1.5–9.3)	1.08 (0.52–2.22)
Avoidant personality disorder				
<i>n</i> (%)	262 (1.3)	22 (1.8)	—	—
aOR-1 (99.9% CI)	1.00	1.58 (0.53–4.66)	—	—
aOR-2 (99.9% CI)	1.00	1.53 (0.52–4.52)	—	0.40 (0.06–2.73)
Obsessive compulsive personality disorder				
<i>n</i> (%)	1108 (5.9)	111 (9.3)	—	—
aOR-1 (99.9% CI)	1.00	1.63 (1.00–2.66)***	—	—
aOR-2 (99.9% CI)	1.00	1.60 (0.98–2.61)**	—	1.80 (0.82–3.92)
Any cluster C personality disorder <sup>a</sup>				
<i>n</i> (%)	1280 (6.7)	120 (9.9)	—	—
aOR-1 (99.9% CI)	1.00	1.54 (0.96–2.47)**	—	—
aOR-2 (99.9% CI)	1.00	1.51 (0.94–2.42)**	—	1.61 (0.75–3.45)

All *n* values were unweighted, and all percentages were weighted. aOR-1, adjusted for gender, age, marital status, race/ethnicity, education, and household income; aOR-2, adjusted for age, marital status, race/ethnicity, education, household income, and any family history of dysfunction.

<sup>a</sup> Dependent personality disorder was included in the any cluster C personality disorder summary variable. However, it was not analyzed in relation to physical punishment individually due to a cell size <5.

\*\*  $P \leq .01$ ;

\*\*\*  $P \leq .001$ .

discourage the use of physical punishment.<sup>58</sup> A more explicit position statement to be considered in the future might include the statement

that physical punishment (ie, spanking, smacking, slapping) should not be used with children of any age. In making such a recommendation, it will be important

to provide information about alternative discipline strategies, such as positive reinforcement. Many positive approaches to parenting and discipline

exist and have been reviewed in the literature.<sup>59–61</sup>

From a public health perspective, reducing physical punishment may help to decrease the prevalence of mental disorders in the general population.

Policies need to be focused on strategies to reduce physical punishment, which again points to the importance of positive parenting approaches. Although this study has limitations, it provided a unique opportunity to examine harsh physical

punishment and mental health by using a nationally representative sample. These findings are important in considering policy and programmatic approaches to protect children from inappropriate and potentially harmful discipline.

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