



The Effect of Childhood Sexual Victimization on Women's Income

John Robst^a and Stacy Smith^b

^aDepartment of Mental Health Law and Policy, Florida Mental Health Institute, University of South Florida, 13301 Bruce B Downs Blvd, Tampa, FL 33612, USA.

E-mail: jrobst@fmhi.usf.edu

^bCrisis Center of Tampa Bay, One Crisis Center Plaza Tampa, FL 33613

E-mail: stacymarlesmith@verizon.net

Numerous studies show that survivors of childhood sexual abuse (CSA) suffer as adults from depression, post-traumatic stress disorder, alcohol and drug abuse, and other mental illnesses. As such, the effect of experiencing traumatic events during childhood including sexual abuse can be long lasting. The lasting effects of CSA may also have economic implications. The purpose of this paper is to examine whether a history of CSA affects women's wages and to examine whether such effects are a function of the severity of abuse. *Eastern Economic Journal* (2008) **34**, 27–40. doi:10.1057/palgrave.eej.9050017

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INTRODUCTION

Over time, considerable effort has been made to understand and predict the long-term consequences of sexual abuse in childhood. Prevalence estimates of childhood sexual abuse (CSA) for women range from 6 to 62 percent, while estimates range from 2 to 11 percent for boys [Walker et al. 2004]. Research has considered the long-term effects of CSA on adult mental health, physical health, and incarceration. CSA is linked to psychological disorders in women including depression, phobias, Post-traumatic Stress Disorder (PTSD), dissociation, addiction, and borderline personality disorder (e.g., Widom et al. [1995]; Wilsnack et al. [1997]; Kendler et al. [2000]). Such disorders have economic implications in the form of lower wages and work difficulties (e.g., Mitchell and Anderson [1989]; Mullahy and Sindelar [1991]; Ettner et al. [1997]; French and Zarkin [1998]).

Only one study has so far directly addressed the link between CSA and adult income. Hyman [2000] examined the effect of four types of CSA on income for a sample of lesbian women. The author found a negative relationship between wages and intra-familial abuse with coercion as well as extra-familial abuse with an unknown perpetrator. No relationship was found between wages and intra-familial abuse without coercion and extra-familial abuse with a known perpetrator. Although a valuable beginning to research in this topic, there are limitations in terms of generalizability, given that the data are comprised exclusively of lesbian women. In addition, the earnings specification did not control for several variables typically found to affect income.¹

This paper examines the relationship between CSA and adult income using nationally representative data, and determines whether the effects differ by self-reported effects of the abuse. Exploring the relationship between CSA and

adult income will inform public policy discussions by better understanding the long-term costs of childhood abuse.

BACKGROUND

The topic of sexual abuse encompasses an enormous literature. For detailed reviews on the general topic, see Neumann et al. [1996], Brown [2001], Bremner [2003], and Walker et al. [2004]. The following review provides a sample of the literature relevant to the questions being addressed within this paper.

Why might CSA be associated with lower wages in adulthood? CSA can cause later psychopathology that may influence income in adulthood. Specifically, psychopathology may have both direct and indirect effects on salary. Indirect effects might include less education, poorer physical health, and lower labor force attachment. The literature discussed below demonstrates the link between CSA and later adult psychopathology and the relationship between adult psychopathology and negative economic consequences.

Research has indicated that the consequences of CSA on psychological functioning can be far-reaching. The experience of CSA lays a foundation of shame [Kessler and Bieschke 1999], low self-esteem [Widom et al. 1995; Ketring and Feinauer 1999], and difficulty trusting others [Hall 2000]. Through time, these negative attitudes can lead to many adverse outcomes, such as difficulty with relationships [Ketring and Feinauer 1999], trouble in school [Nugent et al. 1998], revictimization in women [Arata 2002], and, as discussed below, increased psychological disorders for both men and women. The vast majority of studies have dealt with samples exclusively of women.

There is a general consensus in the literature that CSA is linked to psychological disorders in women, including depression, phobias, PTSD and dissociation, addiction, and borderline personality disorder. For example, Widom et al. [1995] reported that substance abuse may be used as a coping tool for dealing with negative feelings associated with CSA, while Wilsnack et al. [1997] noted that 1/3 of their sample of women sexually abused in childhood reported a lifetime use of one or more illicit drugs. In a study of twins, Kendler et al. [2000] found that CSA leads to increased prevalence of major depression, generalized anxiety disorder, panic disorder, and substance abuse. The authors also addressed the possibility that these psychological disorders were more genetic than situational by controlling for parental psychopathology in their study of women sexually abused in childhood. Rates of psychopathology in female survivors declined only slightly, indicating that the experience of sexual abuse cannot be overlooked when examining the etiology of certain disorders.

One potential factor involves the effect of abuse severity on psychological consequences. In general, studies have found that more serious effects result from more serious abuse. Severity is typically defined based on the type of abuse (e.g., penetration), abuse duration, use of force, relationship with perpetrator, with intra-familial abuse being more severe, the number of abusers, the total frequency of abuse, and age at which abuse first occurred [Merrill et al. 2001]. Rates of depression in women exposed to CSA were higher when severity of abuse was greater [Bifulco et al. 1991]. Similarly, Pribor and Dinwiddie [1992] noted that rates of disorders such as anxiety disorders, major depression, and alcohol abuse/dependence were increased for those who had experienced more severe abuse.

While most studies focus on women, several have addressed gender differences in the effects of sexual abuse. Studies suggest that men and women may exhibit



psychological symptoms differently [e.g., Feiring et al. 1999]. Women display more internalized disorders such as anxiety and depression and men exhibit externalized behaviors such as alcoholism and antisocial actions. Dinwiddie et al. [2000] found increased rates of depression and suicide ideation among both male and female CSA victims. Males also had greater conduct disorders and alcohol abuse while women had greater social phobia. In addition, Garnefski and Diekstra [1997] found that CSA led to a greater increase in suicidality among boys.

As shown in the literature, many victims of CSA develop significant psychological issues after the abuse. Still, many do not. While considering short-term outcomes only, research has shown that between 20 and 50 percent of abuse victims show no symptoms of psychopathology in the short term (Conte and Schuerman [1987]; Caffaro-Rouget et al. [1989]). Indeed, Russell [1986] and McMillen et al. [1995] find that almost half of CSA victims report some positive aspects from the abuse. Some female CSA victims report that the abuse led to them “taking better care of themselves; feeling like a stronger person; becoming more in charge of, or more independent in relationships” [Russell 1986, p. 140]. As such, it is important to understand what factors are related to whether CSA has long-term psychological effects.

Long-term outcomes also depend on how the victim perceives the event, and the presence of potentially mitigating factors. Economists are typically trained to focus on reality, not individual perceptions. This can be problematic, however, when it comes to mental health issues. If a person perceives an event to be traumatic, it will have a real effect regardless of whether others would feel the same way or not. The perception of an event is reality to each person and their behavior will reflect their reality. Thus, understanding an individual’s perception is crucial to understanding their behavior, and the long-term effects of potentially traumatic events. Many factors may influence the long-term perceptions and hence outcomes of CSA including the severity of abuse, childhood mechanisms for coping with CSA, parental support, and childhood psychological adjustment [Merrill et al. 2001]. In particular, poorly developed coping skills were strong predictors of long-term effects from CSA.

The symptoms of psychological disorders such as depression, PTSD, and alcoholism have their own consequences. The literature suggests that mental illness is often linked to lower wages and work difficulties. French and Zarkin [1998] found that individuals working in a manufacturing plant who had at least three symptoms consistent with depression or anxiety earned 13 percent less than their counterparts without those symptoms. Ettner et al. [1997] noted that the attention and cognitive difficulties that often accompany mental illness may detrimentally affect employment. The authors noted an 11 percent decrease in employment for those in their sample with mental illness. This finding was consistent across gender and tied to diminished earnings. Mitchell and Anderson [1989] found that individuals who scored higher on measurements of depression and alcohol use had lower employment rates, whereas Mullahy and Sindelar [1991] found that the effects of alcoholism lead to a 10 percent decrease in earnings for women and a 12 percent decrease in earnings for men.

Few studies have examined the economic consequences from CSA. Hall [2000] found that poor concentration, anxiety or fear, poor personal appearance, and difficulty dealing with others, which are markers for mental illness, were obstacles to employment for one sample of sexually abused women. Such effects are only a subset of the psychiatric symptoms of the above-mentioned disorders. Anda et al. [2004] found that victims of CSA were more likely to report job-related problems,

financial problems, and problems with absenteeism. Mullen et al. [1994] found that victims of CSA were more likely to work in unskilled or semiskilled occupations. In addition, CSA victims suffered a decline in socioeconomic status relative to their family of origin. As noted earlier, only Hyman [2000] has examined whether CSA affects adult income. The author found that CSA reduced adult income, but only for certain types of abuse (intra-familial with coercion and extra-familial with an unknown perpetrator).

From this brief review, one finds ample evidence of links between CSA and adult psychopathology as well as a relationship between adult mental illness and negative economic factors. There is also limited evidence that CSA affects economic outcomes in adulthood. The goal of this paper is to expand on this topic using a representative population from the 1992 National Health and Social Life Survey. Specifically, the objective is to examine the link between CSA and adult earnings. Based on earlier research, it is expected that survivors of CSA earn lower wages in adulthood. Also, since prior research has found that some victims of abuse do not develop future psychopathology, earnings are predicted to be lower for those who report greater effects from the abuse.

DATA AND METHODS

The data are derived from the 1992 National Health and Social Life Survey (NHSLs). The purpose of the NHSLs study was to collect extensive information on sexual experiences and other social, demographic, attitudinal, and health-related characteristics of adults in the US [Laumann et al. 1994]. The data cover sexual experiences during childhood and adolescence, as well as adulthood. Demographic items include age, gender, race, education, marital status, work experience, and income. The survey was given to non-institutionalized individuals between the ages of 18 and 59 who were able to speak English. Two samples were obtained: a cross-sectional sample ($n=3,159$) and an oversample ($n=273$) intended to increase the number of blacks and Hispanics in the study.

Only women are included in this study because few men report CSA.² The sample is restricted to ages 18–45 to minimize cohort effects and because linking childhood events with worker income late in their career may be questionable. These restrictions reduced the sample to 1,473 women. Racial distribution was 70 percent Caucasian; 16 percent were black, 10 percent were Hispanic, and 3 percent were “Other” (Asian, Pacific-Islander, Alaskan Native, or Native American). All reported results are weighted to allow for combining the cross-section and oversample while simultaneously adjusting for household size and non-response.

Measurements

Respondents to this survey were asked various questions regarding their past and current sexual experiences and practices. One of these questions referred to respondents’ sexual experiences before the age of puberty: “Before you reached puberty, did anyone touch you sexually?” The phrase “sexual abuse” was not used, but instead refers to sexual touch. The data, however, distinguish between touching that occurred between two pre-pubescent individuals and touching by someone who had reached puberty. Touching of someone pre-pubescent by someone post-pubescent would be included in most standards of sexual abuse [Neumann



et al. 1996]. Even when the touching involves a post-pubescent individual, the age difference between the victim and perpetrator is often considered in definitions of abuse. This is an attempt to account for the possibility that some experiences between individuals of approximately the same age may have been consensual sexual exploration, and not unwanted sexual touching. Studies typically require a 3–10-year age difference between victim and perpetrator [Neumann et al. 1996].

The data provide the age of the perpetrator in three age brackets: <14, 14 to 17, and 18+. Since incidents where the respondent was touched by someone less than 14 years of age usually indicate little age difference, these instances were not included as sexual abuse in this study. The age difference became more difficult to determine when the perpetrator was 14–17 years old since the ages in that range are close to the age of puberty. We define such instances of sexual touching as abuse if the respondent was less than 10 years old when the touching began. As such, we require at least a five-year age difference if the perpetrator was 14, and up to at least eight years if the perpetrator was 17.

The data also contain self-reported information on whether the experience affected their life. Respondents who reported sexual touching before puberty were asked: “Do you think that these experiences have had any effect on your life since then?” The public use file does not contain the exact nature of how the abuse had an effect, nor does it differentiate between negative and positive perceived effects. We assume that the *effect* variable denotes negative outcomes. While individuals may perceive some positive aspects from the abuse, we anticipate that respondents experience more negative than positive effects from CSA. As discussed earlier, the long-term perception of an event may capture several important factors. For example, the severity of abuse, childhood coping skills, parental support, and childhood psychological adjustment all may influence the long-term perceptions of a potentially traumatic event.

Some specifics about the abuse are also available. Respondents who indicated that they had been touched sexually before the age of puberty were presented with a card that contained statements describing the degree of sexual contact. The respondent was asked to indicate those statements that applied to their experience(s). The options were kissing, genital touching, oral sex, vaginal intercourse, anal intercourse, and other. For this study, respondents’ sexual touching experiences were broken down into two groups based on severity.³ Vaginal intercourse and anal intercourse were combined for an *intercourse* variable, while kissing, touching of genitals, oral sex, and other were combined for a *non-intercourse* variable.⁴ The respondent was also asked about the relationship with the abuser. Ten choices were available: mother’s boy friend, older brother, step father, father, relative (uncle/cousin), stranger, respondent’s older friend, teacher, family friend, and other. We grouped the first five choices to create an intra-familial abuse variable, with the remaining five choices considered extra-familial. The respondent was also asked about the frequency of abuse with the number of people who touched the respondent once, a few times, and many times reported. The respondent’s age when the abuse began is available as well. While the NHLS provides substantial information on CSA, the data lack information on whether the abuse involved the use of force. The effects of abuse are typically found to be more severe when force is used [e.g., Merrill et al. 2001].

In addition to information on CSA, the data also contain demographic information including income from wages or salary and hours worked per week. Respondents were asked to report their income from wages or salaries in 1991.

Answers were reported in ranges (0, 1–5,000, 5,001–10,000, 10,001–15,000, 15,001–20,000, 20,001–30,000, 30,001–50,000, 50,001–75,000, and 75,001+). The midpoint of the interval was used to denote salary with 90,000 used for the top interval. The hours worked per week represent the typical hours worked in the current job. No information is available for weeks or hours worked in 1991, the year for which income is reported. Hourly earnings are computed as the annual salary divided by hours worked per year (hours worked per week multiplied by 52). Current hours worked per week are assumed to be similar to the hours worked per week in the prior year.

The sample size is reduced from 1,473 to 1,016 when restricting the sample to those with hourly wages. Another seven people are lost due to missing education and experience, leaving a final sample size of 1,009 women.

Model

The regression model examines the effect of CSA on hourly wages. The analysis is performed using a variety of specifications. The first specification includes a dichotomous variable indicating that the presence of childhood sexual touching is considered. The model takes the general form:

$$(1) \quad \ln W_i = X_i\beta + Abuse_i\delta + \varepsilon_i$$

where X denotes individual characteristics typically found to affect income including race (black, Hispanic, other; white is the reference group), years of schooling, marital status, and years of work experience. As discussed earlier, CSA is unlikely to cause lower wages. Rather, CSA is argued to cause psychopathology that is causally related to income. Consequently, the regression specification represents a reduced-form regression where childhood abuse is an exogenous variable that represents the unobserved psychological outcomes expected to affect wages.

Two important issues need to be addressed before moving on to the second specification. One potential consideration is whether selection bias is introduced by limiting the sample to employed individuals. If CSA is related to labor force participation, coefficients derived from the limited sample may be biased. In order to assess the need for sample selection correction, descriptive statistics were examined and logit regressions were estimated to determine whether CSA is related to labor force participation. No significant relationship was found between CSA and labor force participation in these data. Thus, sample selection corrections were not implemented.

Another issue relates to the specification of the wage regression. CSA may affect adult income for many reasons, and while this paper focuses on psychopathology, CSA may also affect education, work experience, and marital status. By controlling for such factors in the regression, the wage effects of CSA may be underestimated as the CSA coefficients only capture the direct effects of CSA. Any indirect effects through education, experience, or marital status are not captured by the CSA coefficient. One solution to this issue is to estimate regressions without factors that may be influenced by a condition and another regression that controls for such factors [Mullahy and Sindelar 1991]. The results including and excluding such factors represent a potential range of effects. We focus on the more conservative results (i.e., the bottom end of the range) because while the data set is unique, it has limitations for this analysis. Thus, it is important to be conservative in reporting results. To provide some idea of the potential range of effects, however, regressions were estimated that excluded education and marital status and replaced the

quadratic in experience with a quadratic in age. While not the primary focus, these results are briefly discussed in the results section.

The second specification focuses on the self-reported effects of the abuse. Given that research has shown that a number of abuse victims show no symptoms of psychopathology and some even report positive outcomes, we explore whether CSA may affect income differently based on self-reported effects. The dichotomous abuse variable is replaced by two variables: *effect* and *no effect*. Individuals who were not abused comprise the omitted group:

$$(2) \quad \ln W_i = X_i\beta + Effect_i\delta + No_effect_i\mu + \varepsilon_i$$

The use of self-reported effects may be problematic since individuals may blame failures in life, including career failures, on their abuse history.⁵ As such, self-reports may be endogenous. It would be preferable to include the mental health treatment, symptoms, or diagnoses that are expected to result from CSA, but this information is not available in the data. Standard instrumental variables' techniques would be very challenging to implement because it would be extremely difficult to come up with a valid instrument(s). Some family background characteristics might be correlated with being affected by the abuse but it is difficult to envision a family background variable that would be uncorrelated with the residual, given the intergenerational aspects of income. Also, the instrument would need to predict being abused *and* being affected by the abuse. It is very unlikely that an instrument exists in the data that could pass the tests suggested by Bound et al. [1995] and Staiger and Stock [1997].

Instead, we estimate logit equations to predict the probability that abuse affects an individual based on the characteristics of the abuse. The characteristics are chosen, in part, based on the research that has shown the severity of abuse to be related to the likelihood and the severity of psychological consequences. The dependent variable is the self-reported effect, while the final independent variables include whether the abuse involved intercourse, whether the abuser was an adult, the number of people who abused the respondent a few times, the number of people who abused the respondent several times, whether the abuse was intra-familial, and the numbers of years before puberty that the abuse began. Additional variables available in the data were tested but were not significantly related to whether the abuse affected the respondent. Such variables were dropped from the specification to create a more parsimonious specification.

The predicted probabilities are used to create an index to measure the severity of abuse that is less subject to the perceptions and reporting bias of a given individual. Income may influence an individual's reporting, but it is unlikely that income will influence the predicted probability from the logit regression. Thus, while not a standard correction for endogeneity, the index should limit potential endogeneity concerns. The probabilities are used in place of the self-reported effects in the regression specification:

$$(3) \quad \ln W_i = X_i\beta + Pr(Effect)_i\delta + \varepsilon_i$$

RESULTS

The frequency of sexual touching within the survey population is reported in Table 1. Fourteen percent of women report a history of sexual touching prior to



Table 1 Prevalence of childhood sexual victimization

<i>Variable</i>	<i>Mean</i>	
Reports childhood sexual victimization	13.6%	
Number of people		1,009
Of the reporting victimization:		
Reports abuse has had an effect on life	75.9%	
Abuse included intercourse	14.8%	
Intrafamilial abuse	47.1%	
Touched by adult	80.1%	
Number of people who touched respondent once	0.654	
Number of people who touched respondent a few times	0.422	
Number of people who touched respondent many times	0.542	
Age abuse began	7.71	
Number of people		137

Table 2 Descriptive statistics

	<i>No abuse</i>		<i>Abuse</i>		<i>Significant</i>
	<i>Mean</i>	<i>Std err</i>	<i>Mean</i>	<i>Std err</i>	
Hourly wage	13.48	0.931	11.18	2.879	
Years of schooling	13.31	0.062	13.40	0.157	
Years of experience	11.98	0.229	13.16	0.572	*
Age	31.73	0.219	32.48	0.542	
Married	0.560	0.014	0.658	0.035	**
<i>Race/ethnic</i>					
White	0.721	0.013	0.729	0.033	
Black	0.130	0.009	0.096	0.022	
Hispanic	0.104	0.009	0.128	0.024	
Native American	0.016	0.004	0.034	0.013	
Asian	0.028	0.005	0.013	0.008	

*difference is significant at the 5 percent level; **at the 10 percent level

puberty. As mentioned in the literature review, prevalence rates for women range from 6 to 62 percent, thus this rate appears to fall at the lower end of the range of published rates. Of those reporting sexual touching, 76 percent of women report the touching affected their life. Descriptive statistics are reported in Table 2. Wages are lower for abuse victims, but the difference is not statistically significant. Somewhat unexpectedly, female abuse victims have more years of schooling.

Regression results examining the effect of abuse are reported in Table 3. Adult earnings for women who were victims of sexual touching are 20 percent ($e^\beta - 1$) lower than for women who were not victimized. The majority of women report that the abuse affected their life, and the wage coefficients are consistent with the self-reported effects.

Table 3 also reports the wage effects differentiating between abuse victims who report that the abuse affected their lives. Negative wage effects exist only for women who report that the abuse affected their life. Wages are 25 percent lower for women

Table 3 Regression results: the relationship between childhood sexual abuse and adult income

	<i>Specification #1</i>	<i>Specification #2</i>
Intercept	-0.239 (0.212)	-0.2186 (0.213)
Childhood sexual victimization	-0.2269** (0.087)	—
Effected by abuse	—	-0.2820** (0.098)
Not effected by abuse	—	-0.0547 (0.167)
Years of schooling	0.1351** (0.014)	0.1339** (0.014)
Work experience	0.0545** (0.014)	0.0535** (0.014)
Experience squared	-0.0012** (0.0005)	-0.0011** (0.0005)
Married	-0.0378 (0.065)	-0.0377 (0.064)
Black	-0.0329 (0.096)	-0.0378 (0.096)
Hispanic	-0.1587 (0.098)	-0.1684 (0.099)
Native American	-0.6657** (0.268)	-0.6669* (0.268)
Asian	0.4207** (0.187)	0.4139** (0.186)
<i>N</i>	1009	1009
<i>R</i> -squared	0.1315	0.1318

Note: standard errors are in parentheses.

** $P < 0.05$; * $P < 0.10$.

reporting that the abuse affected their life, but a statistically insignificant 5 percent for women who report that the abuse did not affect their life.

As noted above, individuals may report that sexual abuse has affected their life because of economic and social setbacks, not because the abuse was truly to blame. We estimated logit regressions to determine the probability that abuse affects an individual based on the characteristics of the abuse. The results are provided in Table 4. Effects are more likely when the abuse involves intercourse, the number of people who abuse the respondent a few times or several times is greater, and the perpetrator is not related or part of the family.

Two specifications are considered in Table 5 that use the predicted probability in place of the effect variables. First, the predicted probability is used in place of the self-reported effects. Second, because women reporting they were not affected by the abuse did not earn significantly lower wages, we created two dichotomous variables denoting whether the predicted probability of abuse was greater than the median (0.792), or whether the predicted probability was between zero and the median. The omitted group was comprised of individuals who were not abused.

The results for this specification are given in Table 5. The wage effects are negative and significant for those with a greater probability of being affected by the abuse. The result, however, is primarily due to women with a higher probability of being affected by the abuse. Those with lower probabilities earn lower wages, but the coefficient is not statistically significant.

Table 4 Logistic regression results: the relationship between characteristics of abuse and self-reported effects

	<i>Coef</i>	<i>Marg eff</i>
Intercept	-0.1428 (0.845)	
Intercourse	2.363* (1.36)	0.138
Perpetrator was an adult	0.3919 (0.598)	0.042
Number of people who abused respondent a few times	0.7592* (0.433)	0.139
Number of people who abused respondent several times	1.879** (0.769)	0.344
Intrafamilial abuse	-0.9051* (0.486)	-0.095
Years before puberty abuse began	0.1203 (0.098)	0.022
<i>N</i>	137	
Proportion reporting effects	75.9%	
Likelihood ratio	22.5	

Notes: Standard errors are in parentheses.

** $P < 0.05$; * $P < 0.10$.

The marginal effects are computed as $\beta p(1-p)$ for continuous variables, and for categorical variables the difference in predicted probabilities with the categorical variables set to 0 and 1.

Earlier in the paper we discussed some of the consequences of including education, experience, and marital statuses in the specifications. The reported results have controlled for these variables, and thus may be interpreted as a lower bound on the wage effects of CSA. While we feel it is important to be conservative in reporting the wage effects, we re-estimated each specification excluding years of schooling and marital status, and replacing the quadratic in experience with a quadratic in age. The wage effects became slightly larger. The *abuse* wage effect (reported in Table 3) increased from 20 to 22 percent, the *effect* wage difference (reported in Table 3) increased from 25 to 28 percent, and the wage effect for women predicted to be affected by the abuse (i.e., women with predicted probabilities above the median in Table 5) increased from 25 to 28 percent. These results suggest that the majority of the effects from CSA are not through factors such as education and experience, rather they are likely due to psychopathology that results from CSA.

DISCUSSION

The basis for this study is the hypothesis that sexual touching in childhood leads to greater incidents of psychopathology, which in turn leads to lower incomes. It is further postulated that the earnings of individuals reporting effects from the abuse are more negatively impacted. In the literature review, there was evidence presented for these hypotheses, and this study shows strong support for the hypotheses. Incomes were lower for female victims of abuse, with the effect more negative when the victim reports that the abuse affected their life. The fact that incomes are not

Table 5 Regression results: predicted effects of childhood sexual abuse and adult incomes

	<i>Specification #1</i>	<i>Specification #2</i>
Intercept	-0.2390 (0.212)	-0.2333 (0.212)
Probability of effect	-0.2864** (0.111)	—
Predicted probability less than median	—	-0.1776 (0.116)
Predicted probability greater than median	—	-0.2808** (0.121)
Years of schooling	0.1351** (0.014)	0.1347** (0.014)
Work experience	0.0541** (0.014)	0.0542** (0.014)
Experience squared	-0.001** (0.0005)	-0.0012** (0.0005)
Married	-0.0364 (0.065)	-0.0361 (0.064)
Black	-0.0302 (0.097)	-0.0314 (0.097)
Hispanic	-0.1638* (0.098)	-0.1630 (0.099)
Native American	-0.6640** (0.268)	-0.6659** (0.268)
Asian	0.4186** (0.186)	0.4156** (0.186)
<i>N</i>	1009	1009
<i>R</i> -squared	0.1313	0.1309

Notes: Standard errors are in parentheses.
 ** $P < 0.05$; * $P < 0.10$.

lower when individuals report no effects from the abuse suggests that the event of sexual abuse does not necessarily imply future problems in adulthood. Rather, it suggests that some victims are resilient, although this paper cannot address whether such resilience is due to early intervention and support, whether it is indicative of the inner strength possessed by some, or some combination of both.

This paper represents the first effort to access the long-run effects of CSA on adult income using a nationally representative sample. Hyman [2000] found that wages were 10.7 percent lower for victims of intra-familial abuse with coercion and 11.4 percent lower with extra-familial abuse with an unknown perpetrator. No relationship was found between wages and intra-familial abuse without coercion and extra-familial abuse with a known perpetrator. Thus, the estimated 20 percent average wage effect for female CSA victims in the NHLS is somewhat larger. But comparison between the studies is not straightforward because Hyman [2000] used a sample of lesbian women that may or may not be representative of all women.

The results have potentially important economic implications for women in the labor market. Considerable economic research has addressed gender differences in wages. Given the much higher prevalence of sexual abuse among girls, a portion of the gender wage gap may be due to the prevalence of CSA and psychological consequences. Efforts to create equality in the workplace are likely to fall short as



long as women face such traumatic events in childhood, especially when proper support and treatment are lacking.

We focus on the psychological outcomes from CSA in motivating the hypothesized relationship between CSA and economic outcomes. The existing literature emphasizes the effects of CSA on disorders such as depression, conduct disorder, etc. A referee noted, however, that not all disorders that may result from CSA reduce income. For example, sexual victimization may increase the likelihood of narcissistic personality disorders, a disorder more common in men than women. A characteristic of narcissists is repression and denial about emotional traumas, and so they would be highly unlikely to admit that victimization affected them as adults. Simultaneously, narcissists are often highly successful in the labor market. Hence, if men who were victimized are more likely to have narcissistic traits, the weak wage effects for men mentioned in footnote 2 would not be surprising. Unfortunately, the NHSLS does not allow us to test this hypothesis. Future research that utilizes primary data collection should consider this issue.

As in most studies there are a number of caveats and shortcomings. The data, while the best available to examine CSA, provide rather small sample sizes, only self-reported data, income measured in intervals, and no information on the psychological status of respondents. In addition, there is the potential for omitted variable bias in the results if confounding risk factors exist leading to both CSA and adult income. For example, there may be parental psychopathology that independently increases the likelihood of the respondent suffering from childhood abuse and mental illness. While previous research found significant effects from CSA even when accounting for parental psychopathology [Kendler et al. 2000], the inability to include such controls in this paper is still a shortcoming.

The data collected in the early 1990s are rather old. Increased recognition of sexual abuse and its long-run psychological effects on people have led to more intensive treatment programs designed to provide the support structure necessary for most children to be resilient. This highlights the need for more current data to address this issue, and also indicates the importance of having data that allows researchers the many different paths that victims may take between childhood abuse and adulthood. Such data would also allow for a more thorough consideration of the effects of CSA on men.

Future research can examine numerous additional issues. Sexual touching affects adult income, but not in all cases. If, as proposed, the link between sexual touching in childhood and adult income is through increased psychopathology, this connection needs further examination. It is possible that income could be affected differently depending on the type of mental illness manifested. Perhaps those suffering from certain types of mental illness are more likely to have an adverse impact on earnings compared to those suffering from less severe types. For example, someone suffering from major depression may have significantly less income than someone suffering from an anxiety disorder such as generalized anxiety disorder. Or as noted by the referee, whether there are mental illnesses that result from CSA that increase earnings. Whether or not an individual is being treated for a psychological disorder may also influence earnings. Those who are being treated through therapy and/or medication may be less likely to suffer adverse symptoms or have excess absenteeism. Finally, there is the possibility that some psychological disorders are specific to relationships with others and may not manifest themselves in ways that influence earnings. Within this data set, it was not possible to determine the psychological health of the respondents; thus, the key link in this relationship could

only be presumed, not established. Further research would benefit from a data set that included psychological characteristics or reports of mental health problems. Such research should examine the role of psychological health when examining the link between CSA and adult income.

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Notes

1. The earnings regression included categorical variables for age instead of work experience, and a single education variable denoting whether the person completed college.
2. The wage effects of CSA were examined for men despite the small sample size. The wage effects were consistently insignificant, but the results are not reported because such results are not conclusive. The insignificant results may indicate a lack of effect or may simply be due to the very small sample size of male CSA victims.
3. Aggregations of the variables are necessary due to sample size considerations. The cell sizes for specific responses are often very small.
4. We also explored using three groups with the non-intercourse category divided into oral sex and kissing/touching/other groups but the results were unaffected by the distinction.
5. Reports of abuse may also be subject to bias. Prescott et al. [2000] found that individuals who are anxious or depressed are more likely to report past abuse. It is not that the abuse did not occur, but that others who were abused may not report abuse.

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