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The Effects of Childhood Abuse on Adult Socioeconomic Outcomes

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I. Introduction

It is well known that abuse experienced in childhood can have severe negative effects on mental health throughout the course of a person's life, but it is not well understood how different types of abuse experienced in childhood effects adult socio-economic welfare.

This research paper was inspired by the study done by Zielinski in 2009 titled *Child maltreatment and adult socioeconomic well-being.* In Zielinski's study, the NCS data set was analyzed by using a logistic regression model to examine whether child maltreatment affected employment status, income, and healthcare coverage in adulthood. Zielinski found that outcomes differed significantly between adults who experienced childhood maltreatment and adults who did not, adults who experienced childhood abuse are more likely to be unemployed and meet the poverty threshold. The intentions of this paper are not to replicate the methods and findings of Zielinski, but to use a different statistical method to see if Zielinski's findings can be validated.

Another study by Covey, H. C., Menard, S., & Franzese, R. J. analyzed the effects of both being the victim of physical violence and witnessing physical violence in the community or in the home titled *Effects of adolescent physical abuse, exposure to neighborhood violence, and witnessing parental violence on adult socioeconomic status* found that significant changes in socioeconomic status are found most often with physical abuse and witnessing domestic violence decreases employment. Additionally, a study done in 2010 *Long-term consequences of child abuse and neglect on adult economic well-being* by Currie, J., & Spatz Widom found that adults with documented histories of abuse and/or neglect have lower levels of education, employment, and earnings. There is a 14% gap between individuals with histories of abuse and those that do not have histories of abuse in their probability of employment in middle age.

This research paper will be using data from the nationally representative National Comorbidity Survey (n=8,098) to compare the socioeconomic outcomes of those who experienced abuse in childhood to those who did not. I will be using OLS regression, OLS Linear Probability, and Logistical[1] models to analyze the effects that abuse in general and the effects that different types of abuse (physical, sexual, neglect) have on income, probability of unemployment, probability of pursuing education, and probability of meeting the poverty

[1] Logit models were included to ensure that the OLS LPM models accurately fit the data. Logit models use "S" shaped curves to create a best fit line to fit data while Linear models use straight lines.

threshold. While the Zielinski paper looked at the effects of childhood maltreatment in general, it did not analyze the effects that different types of abuse might have on adult socioeconomic outcomes.

Through my analysis I found that experiencing sexual abuse in childhood reduces a person's income by 28%, increases their odds of meeting the poverty threshold by about 2.7 percentage points and that experiencing neglect reduces a person's odds of finishing college by 8.5 percentage points.

II. Data

A. Defining Variables

The NCS survey compiled data from 8,098 people by performing question-based interviews. In the interviews, subjects were asked multiple questions about general income, health, house-hold size, employment status, mental health, traumatic experiences, etc. In order to isolate adults who were abused as children and adults who were not, I used the responses to the questions:

a. Were you physically abused as a child?
b. Have you ever been raped?
c. At what age were you raped?
d. Have you ever been molested?
e. At what age were you molested?
f. Did you experience neglect as a child?

I used the response to question a. and f. to create a binary variable representing those who had been physically abused in childhood (physabusechild, n=348) and those who were neglected in childhood (neglect, n=234) where a positive answer is represented by a 1 and a negative answer is represented by a 0.

I used the responses to questions b. – e. to create a binary variable representing those who had been sexually abused as a child (sexabuse, n=600) where if a person responded positively to b. or d. and their response to c. or e. was less than 18, they were classified as being sexually abused as a child and were represented by a 1 while those that answered negatively to b. – e. were represented with a 0.

Using the binary variables that I created for different types of abuse, I created another binary variable to represent everyone who had been abused as a child in any of the three ways which I classified as general abuse (n=883).

Additionally, I created binary interaction variables to represent those who experienced more than one type of abuse or even all three types of abuse (n=56).

Binary variables were also created for employment status which was split into three different categories: student workers, workers, and homemakers; religion; race; marital status; and education where education was split into four categories: high school graduate (completed 12 years of education), some college (completed between 12 and 16 years of educations), college graduate (completed 16 years of education, n=1,053), and graduate school (completed more than 16 years of education).

TABLE 1

Total Observations		8,090
	Observations	%
Female	4,263	53%
Male	3,835	47%
General Abuse	883	11%
Sex Abuse	600	7%
Physical Abuse	348	4%
Neglect	234	3%
All 3 Types of Abuse	56	0.69%

TABLE 2

Unemployment by Category		
Total Sample	1,052	13%
Female	528	12%
Male	525	14%
General Abuse	92	10%
Sex Abuse	69	11%
Physical Abuse	29	8%
Neglect	19	8%
All 3 Types of Abuse	5	9%

TABLE 3
College Education by Categories

Total Sample	1,053	13%
Female	527	12%
Male	525	14%
General Abuse	101	11%
Sex Abuse	69	11%
Physical Abuse	29	8%
Neglect	19	8%
All 3 Types of Abuse	5	9%

TABLE 4
Income by Category

	Average	Std. Dev	Min	Max
Total Sample	20,191	18,630	0	100,000
Female	15,157	14,942	0	100,000
Male	25,786	20,624	0	100,000
General Abuse	15,488	16,341	0	100,000
Sex Abuse	14,412	15,534	0	100,000
Phys Abuse	16,563	16,651	0	85,000
Neglect	15,939	17,044	0	85,000
All 3 Types	15,937	16,246	0	85,000

B. Limitations

The main limitations to this study are found in the NCS data set. The data was collected by interviewing survey participants. Some of the questions in the interview were left up to the participants interpretation. For example, when the participants were asked if they had been raped or physically abused, there was no defining the types of experiences that would qualify as "rape" or "physical abuse." Another limitation of this data set is that all of the participants were asked questions about what may have happened to them in their childhood which could have led to some inaccuracies due to imperfect memory as well as selection bias for some people may not be willing to admit to themselves or anyone else that they have experienced abuse. For example, if a person only experiences abuse or neglect up until they were four years old, it is not likely that they would remember those experiences which would lead to a false negative answer. Conversely, it is possible that a person could report a false positive answer. Another limitation of this data set is that I was not able to find any information on the socioeconomic status of a person's family (mother and father) which generally have significant effects on the income/ socioeconomic outcomes of a person abused and not abused.

III. Model

I will be using OLS regression models, OLS linear probability models (LPM) , and Logistical (logit) models with binary explanatory variables that indicate whether a person has experienced abuse in general, has been physically or sexually abused as a child, and whether they experienced neglect as a child along with interaction variables for those who experienced multiple types of abuse. I will also be including demographic variables, employment status variables, and marital status variables in order to minimize omitted variable bias. Demographic, marital status, and employment status variables are all important variables to include in these models because they help to create identical individuals who only differ in whether they have been abused in some way or another or not. Additionally, variables such as race, gender, employment status, region, and marital status all have potential effects on income, employment, and educational development. For instance, women are more likely to go to college than men (Conger, D.) and conversely black individuals are less likely to finish college than white individuals (Light, A.). Additionally, I included variables that reflect the region in which a

person lives because different parts of the country have different customs and costs of living that may affect income levels which need to be controlled for.

The two base models I will be using are:

$$\ln(income) = \beta_0 + \beta_1(general\ abuse) + \beta_2(demographic\ variables) + \beta_3(employment\ status) + \beta_4(marital\ status)$$

$$\ln(income) = \beta_0 + \beta_1(sexual\ abuse) + \beta_2(physical\ abuse) + \beta_3(neglect) + \beta_4(demographic\ variables) + \beta_5(employment\ status) + \beta_5(marital\ status)$$

I have chosen to include two different base models, the first is intended to mimic that of Zielinkski's and the second is intended to show the effects that different types of childhood abuse have on different adult socioeconomic outcomes. I will be using these base models to analyze differences in income between an abused person and a non-abused person, the differences in the probability of unemployment[2], the differences in probability of pursuing higher education, and the differences in probability of meeting the poverty threshold.

IV. Results

According to the output in Table 5, Without controlling for demographic characteristics, employment status, and marital status it seems as though a person who experienced general abuse as a child would be expected to make 56% less income as an adult than a person who did not experience general abuse as a child with statistical significance at the 1% level (model 1), but when controlling for demographic characteristics, employment status, and marital status it turns out that experiencing general abuse as a child has no statistical impact on adult income (model 7).

[2] Unemployment is defined as someone who self-identifies as "in the work force" and has an annual income less than $500.

Looking at all three types of abuse while not controlling for demographic characteristics, employment status, and marital status the data tells us that a person who experienced sexual abuse as a child is expected to make 79% less income as an adult compared to a person who was not sexually abused as a child with statistical significance at the 1% level (model 2) and a person who experienced neglect as a child is expected to make 38% less income that someone who did not experience abuse as a child at the 10% level of significance (model 4), while experiencing physical abuse as a child has no statistically significant effect on income (model 3). When controlling for demographic characteristics, employment status, and marital status it can be concluded at the 5% level of significance that a person who was sexually abused as a child is expected to make 28% less income as an adult compared to a person who did not experience sexual abuse as a child while no other forms of abuse have any statically significant effect on adult income (model 8).

According to the output in Table 6, between the OLS regression model and the Logistic [3]model it is clear that having experienced general abuse in childhood does not have any statistically significant effect on a person's probability of being unemployed and going to graduate school (models 5,6,7&8), but having experienced general abuse in childhood does have a statistically significant negative effect at the 5% level on the probability of a person completing their undergraduate degree (-2.5 percentage points, models 9&10) and a statistically significant effect at the 1% level on a person the probability of a person meeting the poverty threshold (4.5 percentage points, models 21&22).

Finally, according to the output in Table 7, experiencing sexual abuse as a child increases one's likelihood of meeting the poverty threshold by about 2.7 percentage points (models 23&24), and experiencing physical abuse as a child increases a person's likelihood of meeting the poverty threshold by 5.4 percentage points (models 23&24). Additionally, experiencing neglect as a child reduces a person's likelihood of finishing college by 8.3 percentage points.

[3] Final reported results in this section are calculated by taking the average of statistically significant coefficients of the LPM and Logit coefficients from Table 6 and 7. If a coefficient was only significant in one type of model and not the other it was not reported in the results.

V. Conclusion

Through my analysis I found different results than were found in the Zielinski paper. One of the main findings of Zielinski's paper was that those who were abused in general were more likely to be unemployed in adulthood. I did not find that same result. This could be due to differing models used between my paper and the Zielinski paper as well as differing definitions/measures of unemployment. On the other hand, the results do show that childhood abuse does indeed negatively affect adult socio-economic outcomes such as income, obtaining a college degree, and increases the likelihood of someone being in poverty.

These findings suggest that more research should be done not only on how childhood abuse effects adult socioeconomic outcomes, but how different types of childhood abuse may effect adult socioeconomic outcomes. It is clear that no form of abuse has the same effect as another, so more research would be helpful to make conclusions about what types of abuse most negatively impact adult outcomes and why that may be.

Table 5: OLS regression output

VARIABLES	(1) ln_income	(2) ln_income	(3) ln_income	(4) ln_income	(5) ln_income	(6) ln_income	(7) ln_income	(8) ln_income
gen_abuse	-0.563***						-0.136	
	[0.112]						[0.0858]	
sexabuse		-0.776***			-0.786***	-0.828***		-0.282**
		[0.133]			[0.139]	[0.155]		[0.119]
physabusechild			-0.166		0.188	-0.00432		0.0198
			[0.172]		[0.193]	[0.259]		[0.196]
neglect				-0.382*	-0.228	-0.360		-0.124
				[0.208]	[0.229]	[0.332]		[0.252]
sex_physabuse						0.329		0.266
						[0.404]		[0.306]
sex_neglect						-0.0555		-0.322
						[0.488]		[0.369]
phys_neglect						0.356		0.497
						[0.470]		[0.356]
Fixed Effects[4]	No	No	No	No	No	Yes	Yes	Yes
Interactions[5]	No	No	No	No	Yes	No	No	Yes
Observations	8,098	8,098	8,098	8,098	8,098	8,098	8,098	8,098
R-squared	0.003	0.004	0.000	0.000	0.004	0.005	0.430	0.430

Standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

[4] Fixed effects include race, gender, education (categorized), employment status (categorized), region (categorized),and marital status (binary).

[5] Interaction variables are binary variables for individuals who self-reported experiencing more than one type of abuse when they were below the age of 18.

Table 6: Logit and LPM Output (Abuse in General)

	(5)	(6)	(9)	(10)	(17)	(18)	(21)	(22)
	LPM	LOGIT	LPM	LOGIT	LPM	LOGIT	LPM	LOGIT
VARIABLES	Unemployed[6]	Unemployed	College[7]	College	Graduate School	Graduate School	Poverty	Poverty
gen_abuse	0.0103	0.00796	-0.0249**	-0.0251**	-0.0112	-0.0118	0.0477***	0.0452***
	[0.00637]	(0.00671)	[0.0120]	(0.0111)	[0.0104]	(0.0102)	[0.0110]	(0.0116)
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,098	8,098	8,098	8,098	8,098	8,098	8,098	8,098
R-squared	0.031		0.018		0.017		0.158	

Standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

[6] For the models that have Unemployment as the output variable, fixed effects for employment status were omitted to avoid homoscedasticity.
[7] For the models that have College and Graduate School as the output variables, fixed effects for education were omitted to avoid homoscedasticity.

Table 7: Logit and LPM Output (Different Types of Abuse

	(7) LPM	(8) LOGIT	(11) LPM	(12) LOGIT	(19) LPM	(20) LOGIT	(23) LPM	(24) LOGIT
VARIABLES	Unemployed	Unemployed	College	College	Graduate School	Graduate School	Poverty	Poverty
sexabuse	0.0130	0.00935	0.00523	0.00579	0.00318	0.00463	0.0303*	0.0268*
	[0.00881]	(0.00927)	[0.0167]	(0.0173)	[0.0145]	(0.0156)	[0.0155]	(0.0155)
physabusechild	0.0105	0.0106	-0.0294	-0.0290	-0.0361	-0.0352*	0.0533**	0.0563*
	[0.0146]	(0.0166)	[0.0276]	(0.0247)	[0.0239]	(0.0200)	[0.0256]	(0.0288)
neglect	0.00448	0.00418	-0.0827**	-0.0878***	0.0129	0.0137	0.0608*	0.0529
	[0.0187]	(0.0192)	[0.0354]	(0.0212)	[0.0307]	(0.0347)	[0.0329]	(0.0357)
sex_physabuse	-0.0253	-0.0162	-0.0641	-0.0789***	0.0426	0.0551	0.0137	-0.00559
	[0.0227]	(0.0110)	[0.0429]	(0.0262)	[0.0373]	(0.0642)	[0.0400]	(0.0319)
sex_neglect	1.94e-05	0.00119	0.0839	0.195	-0.0635	-0.0664***	-0.0795*	-0.0471*
	[0.0274]	(0.0236)	[0.0519]	(0.120)	[0.0450]	(0.0227)	[0.0483]	(0.0276)
phys_neglect	0.00958	0.00707	0.0569	0.134	-0.0312	-0.0365	0.0213	0.0114
	[0.0264]	(0.0267)	[0.0500]	(0.108)	[0.0433]	(0.0378)	[0.0465]	(0.0410)
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,098	8,098	8,098	8,098	8,098	8,098	8,098	8,098
R-squared	0.031		0.020		0.018		0.131	

Standard errors

in brackets

*** p<0.01, ** p<0.05, * p<0.1

Sources

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