

Comments welcome

Childhood Abuse and Welfare Use

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Abstract:

Physical and sexual abuse are very common among welfare recipients. The relation of abuse to welfare receipt remains largely unknown, however, because most research has been limited to current and former recipients. This paper uses a random sample of poor women to determine how a history of abuse affects the probability of receiving cash and in-kind assistance over a five-year period. It also investigates whether abuse affects the length of welfare receipt and the total amount of aid received. Women experiencing both physical and sexual abuse during childhood were more likely to use both cash and in-kind programs and had longer spells of cash assistance.

Introduction

Violence against women is highly prevalent in the United States. The 1995-1996 National Violence Against Women survey found that 17.6% of women have experienced attempted rape and 51.9% have experienced physical assault during their lifetimes (Tjaden and Thoennes 1998). Violence perpetrated by intimate partners may entail psychological abuse as well, ranging from threats and demeaning comments to harassment and stalking (Raphael and Tolman 1997; Tjaden and Thoennes 1998). Outcomes of abuse include physical injury, anxiety, depression, and reduced self-esteem (Sorenson and Golding 1990; Fischbach and Herbert 1997). Severe abuse may lead to post-traumatic stress disorder (PTSD), particularly when sexual and physical abuse co-occur (Widom 1999; Schaff and McCanne 1998; Kilpatrick 2000).

Woman abuse is an economic phenomenon as well. Short-run costs include payments to health care providers for injury treatment, lost pay due to absenteeism, and replacement of damaged items. Longer-term effects could include a reduction in human capital due to lower education and more frequent job turnover (Lloyd 1998). The National Violence Against Women Survey indicates that intimate-partner violence against adult women in the United States leads to nearly 8.0 million lost days of paid work per year (National Center for Injury Prevention and Control 2003). Among low-income women, abuse is associated with lower average wages and a reduced likelihood of consistent full-time work (Smith 2001; Tolman and Raphael 2000). The wage loss associated with abuse can be quite large; in a sample of low-income women, Smith (2001) found that a history of physical and sexual abuse during adulthood were associated with earnings losses of 25% or more relative to those of unabused women.

The prevalence of abuse is strongly tied to household income. Among females age 12 and older, those with family incomes below \$10,000 reported a prevalence rate 130% higher than those

with family incomes of \$50,000 or more (Bachman and Saltzman 1995). When earnings are insufficient for family support, abused women may turn to public assistance. Cash and in-kind support can substitute for earned income lost or foregone due to abuse and may provide economic independence that enables a woman to leave an abusive relationship.

Federal legislation known as the Family Violence Option (FVO) allows states to screen welfare recipients for abuse and to release those being abused from certain time-limit and welfare-to-work requirements (Raphael and Haennicke 1999). Underlying the FVO is an assumption that abused women have reduced work opportunities that will translate into greater total months of program use. This paper assesses the strength of that assumption by examining the abuse history and welfare use of a cohort of poor women in Washington State.

Another measure of the impact of abuse is the length of individual spells. A history of abuse during adulthood has been associated with increased cycling, a pattern of repeated movement on and off the welfare rolls that would tend to shorten welfare spells (Salomon et al. 1996). Yet the opposite effect can occur as well. Anecdotal evidence has made clear that welfare recipients frequently face sabotage by partners who wish them not to gain the independence of employment (Tolman and Raphael 2000).

The notion that welfare use can lead to abuse illustrates the potential endogeneity of abuse and welfare use. As explained in detail below, I will circumvent this difficulty by relying on women's reports of childhood abuse to instrument for abuse during adulthood. A wealth of anecdotal and survey data supports a strong link between the two, including data from the survey data used in this study.

In summary, the link between abuse and welfare will be studied by testing the hypotheses that experiencing abuse during childhood will raise the probability of using cash and in-kind welfare

programs, increase the length of the first welfare spell during a 60-month time window, and increase the total number of months of welfare receipt during that period.

Data

Data came from the Family Income Study, which collected detailed information on poor women in Washington State with the aim of determining the causes of welfare dependence (Lidman 1995). One group of respondents consisted of households chosen randomly from the Washington State AFDC (Aid to Families with Dependent Children) rolls in March, 1988. A comparison group of about 800 households was also chosen, called the “at-risk sample” because they resided in neighborhoods with high proportions of AFDC recipients. Data for this study are drawn from the at-risk sample. Entry into the at-risk sample was not conditioned on household income, welfare use, or work history. The survey was administered in annual retrospective waves for five years, 1988-1992.

FIS questions covered topics such as work history, public assistance use, education, and fertility history. The final survey included an additional module that asked about experiences of abuse during childhood and as an adult, among other topics. Respondents to the final (1992) survey were asked separately about abuse during childhood and adulthood. The questions were divided into “physical” and “sexual” categories. Physical abuse in childhood was defined as having been “hit, kicked, punched, or beaten up.” Sexual abuse included “unwanted touching, sexual assault, or rape.”

Endogeneity of abuse and welfare

A difficulty in studying the relation of contemporaneous abuse to welfare use is that they may be endogenous. Abuse can increase the probability and length of welfare use by reducing human capital accumulation, increasing absenteeism, and causing psychological conditions, such as depression and PTSD, that are known to be detrimental to work efforts. Conversely, welfare programs

may lead to abuse. Attempts to gain independence through welfare-to-work programs can increase the frequency and severity of abuse, and direct sabotage of the work effort is often seen (Raphael 1996; Tolman and Raphael 2000).

The potential endogeneity of abuse and welfare use cannot be circumvented using work patterns or other adulthood characteristics. Although the FIS survey covers a relatively long period, there may be unobserved instances of abuse and welfare receipt prior to the survey's start. Instead, the woman's reported experiences of childhood abuse will be used as instruments for adult abuse.

A substantial body of research in psychology and epidemiology links abuse in childhood to revictimization in adulthood (Browne and Finkelhor 1986; Roberts et al. 1998; Coid et al. 2001; Desai et al. 2002). A strong relation between the two exists in these data as well. Every category of childhood abuse is associated with a greater probability of experiencing both physical and sexual abuse in adulthood. The combination of childhood physical and sexual abuse raised the probability of adulthood physical and sexual abuse by 32.5% ($p < .01$), all else equal (Smith 2001).

Programs

The FIS collected data on respondents' use of many separate public assistance programs. The four that were received by a substantial proportion of respondents included a cash program (AFDC) and three in-kind programs (Food Stamps, federal energy assistance (LIHEAP), and federal housing support). These will be discussed briefly in turn.

AFDC

AFDC was the predecessor to today's TANF (Temporary Assistance for Needy Families). It was a means-tested program for poor families, primarily unmarried mothers and their children, jointly funded by state and federal governments. The unit of assistance was the family, defined as one or more children under age 18 in the household. Participation in AFDC conferred categorical eligibility

in several others programs, including Food Stamps, Medicaid, and federal housing assistance.

Although the primary recipients were families consisting of an unwed mother and one or two children, married-couple families and nulliparous pregnant women were also covered. Marriage itself did not disqualify a woman, but rather marriage to the father of any of her coresident dependent children. She was still eligible if she married or cohabited with a man who was not the father of any such children. In addition, every state allowed otherwise eligible, two-parent families to obtain AFDC if one parent was sufficiently disabled. Finally, there were cases in which the parents were deemed ineligible but the children eligible; such “child-only” cases received a smaller monthly payment.

In the last 1980s, Washington State instituted an AFDC waiver program called the Family Income Program (FIP). The FIS survey was undertaken in part to determine the success of the waiver elements of FIP in helping AFDC recipients to earn more and to leave public assistance faster. The FIP program had features similar to AFDC and was assigned during the AFDC application process. Incentives from the FIP program would have been very similar to those arising from AFDC. For this reason, the term ‘AFDC’ will be used in this study to refer to both FIP and AFDC.

Food Stamps

The Food Stamp program provides coupons for food purchases. At the time of this study, gross household income had to fall below 130 percent of the poverty line and net income below 100 percent, except in households with elderly or disabled members. Countable resources could not exceed \$2000, or \$3000 if the household included someone over 60. Assets included the equity in a vehicle beyond a preset limit. Participants had to work or agree to participate in training or job-search efforts. The benefit varied by household size, where household was defined as an individual or group of individuals who regularly purchase food and prepare meals together at home. Related family members living

together were automatically counted as one unit regardless of their actual food preparation habits, unless one person was elderly or disabled.

LIHEAP: Federal Energy Assistance

The Low Income Home Energy Assistance Program (LIHEAP) provides grants to defer the cost of home heating, cooling, and weatherization. The unit of assistance is the household, defined in statute as "any individual or group of individuals who are living together as one economic unit for whom residential energy is customarily purchased in common or who make undesignated payments for energy in the form of rent." Recipients of AFDC and Food Stamps were categorically eligible, as were households with incomes no greater than 110 percent of the state poverty level or 60 percent of the median state income. States had the option to raise the upper income limit to 150 percent of the poverty level and to add restrictions such as asset tests and limitations for people living in subsidized housing or group living arrangements.

Housing Assistance

Federal housing assistance came in two forms at the time of the FIS: rent subsidy certificates and vouchers, often called "Section 8 vouchers," and public housing facilities. Eligibility was set by the federal government on the basis of income and assets, and varies by geographic region (Painter 2001). Recipients used Section 8 vouchers or certificates to pay part of the rent for privately owned apartments; the remainder comes from the tenant according to a federal formula. Public housing units were controlled by local housing authorities that collected rent from tenants according to the federal formula, maintained waiting lists, and set additional eligibility criteria within federal limits (Painter 2001).

Framework for Analysis

As noted earlier, childhood abuse variables will be used in place of those representing adulthood abuse. This admits two interpretations. One is indirect least squares, a single-equation instrumental variables model in which the number of exogenous instruments equals the number of endogenous variables. A second is that childhood abuse directly affects the probability or intensity of welfare use in adulthood. Childhood abuse may have direct and indirect effects on adult welfare use simultaneously, or it could have direct effects for some women, indirect for others, and both effects for yet others.

Childhood abuse could alter welfare use by several paths. The instrumental variables interpretation relies on the link between childhood and adult abuse. As noted earlier, abuse during childhood increases the likelihood of abuse during adulthood (Browne and Finkelhor 1986), which itself is tied to lower earnings and difficulties in leaving welfare (Tolman and Raphael 2000; Smith 2001). Among FIS respondents, a combination of physical and sexual abuse in childhood was associated with nearly \$3000 less in earnings per year, even controlling for educational attainment, unearned income, the unemployment rate, and family welfare use during childhood (Smith 2001). A direct effect of childhood abuse on welfare use could come through psychological harm. Two common sequelae of abuse are depression and posttraumatic stress disorder (Hanson et al. 2001; Beitchman et al. 1992; Browne and Finkelhor 1986; Widom 1999). Depression and PTSD are both associated with lower likelihood of work among low-income women, although the causality may work in both directions (Hughes and Jones 2000). A third link is indirect, working through choices about schooling and fertility. Abused girls have more trouble at school, including greater truancy and a higher likelihood of running away (Browne and Finkelhor 1986). FIS respondents who reported

childhood abuse engaged in sexual activity earlier, were more likely to be teenage mothers, and dropped out of school at higher rates (Roper and Weeks 1993).

A reduced-form modeling approach is appropriate when there are multiple pathways of causality and important unobservable factors (e.g., personal motivation, family views of welfare) that may affect the outcome. The outcome measures will measure the probability and extent of use of the six cash and in-kind programs described earlier. Explanatory variables will be observable factors theorized to affect the desire for support, including demographic features, family background, childhood abuse history, and earnings potential. Local employment opportunities will be represented by the unemployment rate in the woman's county. The goal will be to determine whether childhood abuse had a significant association with use of these public assistance programs during adulthood, and whether the relation varies by form of abuse (physical, sexual, or both).

Outcome Measures

Program use information was collected retrospectively at each annual interview. Respondents were asked to report use of each program month by month. From these reports, variables were created that represented use of the program at any point during a year as well as the start and end of each spell.

Three outcomes will be modeled: the probability of using welfare, the total number of months receiving welfare benefits, and the length of the first observed spell. Probability of use is modeled separately for each cash and in-kind program described earlier, as well as for any program among the four. Few women reached the maximum value for either total months or length of first spell, and thus right-censoring was not a significant issue.

Left-censoring was also a concern. Because women varied in age, the year in which they first became eligible for welfare benefits varied considerably. For this reason, I excluded anyone who reported using any of the programs during January-May 1987, the five months prior to the start of the

prospective survey period. If they had not been excluded, older women with very long spells would appear to be different from younger women who will eventually have similarly long spells, but who at the time of the survey were simply too young to have done so yet.

One change was made to the report of spell length. The data include a number of spells for the same program separated by two months or less. In that situation, the two are counted as a single spell. The goal was to avoid administrative terminations that were quickly reversed as well as short-lived changes in need that did not reflect a long-term improvement in economic circumstances.

I will not address several additional characteristics of welfare use: dollar amount received, household composition and welfare-to-work requirements. Conditional on enrollment, the dollar amount received is largely determined by the number of dependents in the household. Moreover, the entire study population resided within a single state, leaving no cross-sectional variation in benefits to exploit. The relation of welfare programs to household composition factors such as marriage and fertility has been studied extensively (Schultz 1994; Grogger and Bronars 2001). In recognition of their likely endogeneity to welfare program use, marriage and adulthood fertility variables do not appear in the models reported below. High school fertility (i.e., giving birth prior to finishing high school) is included as an explanatory variable, however, under the assumption that respondents were not eligible to receive welfare as independent household heads during high school.

Explanatory Variables

Seven variables pertaining to family background were included in an attempt to control for unobserved factors that may affect the probability of receiving welfare or length of receipt. There were three education variables for each parent, indicating 12 years of education, 13+ years, or missing. The omitted category was fewer than 12 years. Parental education is likely to have been strongly tied to household income. Women raised in moderate- or high-income families may have expectations

concerning income, lifestyle, or work that differ from those of women raised in poverty. The seventh variable was an indicator for whether the respondent's childhood family received welfare. (Programs, ages, and length of receipt were not specified in the survey question.) It is commonly observed that women raised in welfare-receiving households are more likely themselves to receive welfare as adults (Pepper 1995). Childhood receipt may have increased respondents' knowledge of the system, for example, or reduced a sense of stigma.

Local economic conditions were represented by the unemployment rate in the woman's first recorded county of residence. In an analysis of California welfare recipients, Hoynes (2000) found higher unemployment rates to be significantly associated with longer welfare spells. Because most women who ever used public assistance did so within the first year of the study period, the January 1988 county rate is used for the probability models. The extent-of-use models use an average of the January rates for each year 1988-1992 because many spells ended after 1988. In practice, the two rates were quite similar.

The models also included an indicator variable for chronic illness of the woman's youngest child. In a survey of Michigan welfare recipients conducted by Danziger et al. (1999), more than 20% identified a child's health as a barrier to work. Caring for a sick child may reduce time available to work outside the home (Wolfe and Hill 1995). It could also increase job turnover, as many low-income workers lack paid sick-leave. The study period preceded the passage of the Family and Medical Leave Act, which requires companies to offer limited periods of unpaid leave for medical care of family members.

A predicted wage was calculated in order to control for women's potential earnings capacity. About 81% of women in the at-risk sample reported outside employment. Self-employment earnings were excluded because they may not correlate well with outside wages and because hours worked at

self-employment may be more difficult to recall accurately. A two-stage selection-corrected method was employed to account for potential nonrandom selection into the labor force. The dependent variable was the log of hourly wages in outside employment. Three sets of identifying variables for the labor force participation equation were tried: a disability indicator, the disability indicator plus two indicators for parents' education, and the disability indicator plus six indicators for parents' education.² The identifying variables were jointly significant beyond the 90% confidence level for the two- and six-variable models. Wald tests did not reject the null hypothesis of independent equations at even the 40% confidence level, however, indicating that nonrandom selection into the labor force may not have occurred. The predicted log wages from the two-stage models and a one-stage model were very similar, with means (standard deviations) ranging from 1.96 (0.21) to 2.01 (0.19). The regressions below use the predicted wage from the two-stage model with three identifying variables.

Modeling strategy

The choice of models is similar to the two-part models of health services research. The first equation models the probability of using a particular welfare program. The later equations model the extent of use among program users. Extent of use is represented by two variables: the total number of months received during the 60-month study window, and the length of the first spell of use during that period. In theory it would be possible to estimate a two-stage model, but this was not done for several reasons. First, there were no obvious choices for variables to identify the participation stage. Second, a two-stage model would be appropriate if the goal were to predict welfare use among those who never used it. Doing so is not the goal of this paper, however.

The probability of welfare use is modeled in a standard probit framework. The number of months of use and length of first spell are both modeled in a negative binomial framework. Although this model can accommodate zero-valued outcomes, they were not included here due to their high

frequency. Failure time in the hazard models was modeled in three alternative ways. In the first, the failure was the end of the first spell, meaning that everyone failed in the final month. In the second approach, failure was defined as a spell length of 48 months or less. In the third, failure was a spell length of 24 months or less. Individual heterogeneity (frailty), modeled with an inverse-Gaussian distribution, was added to account for unobserved person-level characteristics that may determine spell length.

Descriptive Statistics

A total of 306 respondents were female, aged 21 or older, had no missing data for study variables, and did not use any of the selected public assistance programs during the period January-May 1987. Table 1 present descriptive statistics separately for abused (N=102) and unabused (N=204) women.

The first set of variables represent the probability of receiving the public assistance programs during the 60-month period from June 1987 to May 1992. Thirty-four percent of abused women and 24 percent of unabused women received one or more of the programs for at least a single month during that time. Both groups used Food Stamps more often than other programs. Women reporting childhood abuse used the programs at higher rates. The difference was significant for all programs (34.3% vs. 24.0%), for AFDC (20.6% vs. 10.8%), and for Food Stamps (26.5% vs. 14.7%).

The second set of variables report the total number of months of program receipt among those using AFDC or Food Stamps.³ Lengths of receipt were not available for energy or housing assistance. Abused women had slightly shorter periods of receipt for AFDC (24.7 vs. 28.1 months) and for Food Stamps (20.0 vs. 24.3 months), but the differences were not statistically significant. Given that the two groups have similar employment rates (Fishman et al. 1999; Smith 2001), this may reflect high turnover in employment interspersed with relatively brief welfare spells.

Respondent characteristics include abuse status, race and ethnicity, age, and educational attainment. Childhood abuse was reported by one-third (33.3%) of the sample. Of those, nearly 60% reported sexual abuse without physical abuse, while smaller proportions reported physical abuse alone (13%) or both forms of abuse (26%). Women abused as children were also likely to be abused as adults: 28% reported sexual abuse (alone) during adulthood, 39% physical abuse alone, and 20% both forms.

Demographic features of abused and unabused women were similar. Abused women were more likely to be White than unabused women (93.6% vs. 83.2%, $p < .05$). There were not significant differences by abuse status in age or own education, although there was a small difference in squared age. About three-quarters of the sample completed high school. The proportion of college-educated women varied considerably by abuse status – 25% of abused women vs. 54% of unabused women – but the difference was not statistically significant.

The next set of variables concern respondents' family background. The generally low education level is consistent with the low average incomes of the respondents' neighborhoods. High school completion was common among respondents' parents, including nearly 70 percent of mothers and 55-60 percent of fathers. The proportion of respondents growing up in a welfare-receiving household was 150% greater for women abused in childhood (27.5% vs. 10.8%, $p < .05$).

The last three variables measure economic factors that may relate to the woman's job and earnings opportunities. The average predicted log wage was \$2.00 per hour and did not vary significantly by abuse status. The county unemployment rate in January 1988 was used to model the probability of ever receiving welfare because most users began a spell within the first 12 months of the study period. The rate averaged 8.34% for unabused women and 8.65% for abused women, an insignificant difference. Regression models of the extent of use employ the average rate in January of

each survey year, which in practice was very similar to the 1988 rate. The high average unemployment rates overall were most likely due to the recession of the early 1990s and the surrounding period of slow growth.

The descriptive statistics point to sharp differences in the probability of using welfare programs between women abused as children and those reporting no such abuse. The extent of use, however, does not seem to vary by abuse status. These findings may be confounded by variation across groups in family background, human capital, and demographics, however, and so multivariate analyses were employed to determine whether child abuse was linked to welfare outcomes when controlling for other explanatory variables.

Specifying Abuse Variables

As noted earlier, the FIS instrument asked separate questions about childhood physical and sexual abuse. There are at least three ways to represent abuse status in regression analyses: a single indicator, equal to '1' if the woman reported either type of abuse, and '0' otherwise; two indicators, one each for physical abuse and sexual abuse; and three mutually exclusive indicators, one for physical abuse only, one for sexual abuse only, and one for both. The omitted category represents no reported childhood abuse.

There was no clear basis in theory for choosing one method over another based on theory alone. I therefore estimated probit models of the likelihood of using each public assistance program. There were three models for each program, corresponding to the three methods for delineating abuse status. The model specifications were similar to those used in later multivariate analyses (see footnote 1 to Table 2). Because the models were not nested, Akaike's Information Criterion and the Bayesian Information Criterion were used to determine the optimal specification of abuse. Results appear in Table 2. Each row represents three models with a single dependent variable; the specifications differ

only by the number of abuse variables, corresponding to the column number. Underscores indicate the lowest (best) value in each row.

Of the eight models reported in Table 2, the three-variable representation of abuse (column ‘3’) had the lowest information criterion score in five instances, versus two instances for the two-variable and one for the one-variable. The multivariate analyses will therefore use the three-variable specification of childhood abuse.⁴

Multivariate Analyses

I. Probability of Program Use

Results of the probability models appear in Table 3, where each column represents a separate program. The dependent variable equaled ‘1’ if the respondent used the program at any time during the 60-month study period, and ‘0’ otherwise. Marginal effects (dY/dX for a one-unit change in X) are shown in place of the underlying probit coefficients, with corresponding asymptotic t-statistics.

Beyond abuse variables, the models included demographic variables, unemployment rate, an indicator for chronic illness of the youngest child, and family background controls. Marginal effects of the family background variables are omitted, but their joint significance is represented by a chi-square statistic.

The marginal effects of abuse were largely consistent across programs. Women reporting both types of abuse were substantially more likely to use these programs. The marginal effects ranged from 17.1% for subsidized housing to 29.0% for Food Stamps, and all were significant beyond the 95% confidence level. There was no significant relation between the physical-only category and use of these programs, perhaps due to the small number of women in that abuse category. Those reporting sexual abuse only were 9.3% more likely to use AFDC, but there were no significant relations to the other programs.

Marginal effects for other variables were also similar across programs. Age had no relation to program use except for Food Stamps. Whites were significantly less likely to use these programs than non-Whites. Hispanic ethnicity had a significant negative correlation with heating assistance (LIHEAP), but otherwise it was insignificant. The county unemployment rate was insignificant in three models, and had a small and marginally significant coefficient for subsidized housing. Women whose youngest child had a chronic illness were more than 20% more likely to receive AFDC, Food Stamps, and LIHEAP, all else equal, although there was no correlation with subsidized housing. The family control variables were jointly insignificant in every model.

II. Extent of Use

The theoretical effect of childhood abuse on months of program use is unclear. Earlier studies of welfare recipients have consistently shown that concurrent abuse can lengthen welfare spells through sabotage of the work effort, but also that abused women are as likely to obtain work as unabused women (Tolman and Raphael 2000; Smith 2002). Moreover, the link between childhood abuse and welfare use may differ from type of abuse.

Table 4 presents results of negative binomial count models whose dependent variables are the total number of months received and length of the first spells of AFDC and Food Stamps. The values shown are marginal effects of the explanatory variables on the independent variable. The range of potential values was 1-60, representing a five-year study period. Although right-censoring was possible, in practice very few people received any program for all 60 months of the study period, even allowing for month-long breaks between episodes. The indicator for Hispanic ethnicity was dropped from the model of first-spell length because too few respondents fell into this group.

As noted earlier, only two program users reported physical abuse only. One had an unusually short total spell length (and therefore first spell length as well), causing the indicator for that category

to have large, negative coefficients in preliminary regressions. Because this may be unrepresentative of all program users experiencing only physical abuse, the two respondents and the corresponding indicator variable were dropped from the estimation.

A total of 37 AFDC users and 52 Food Stamps users met the inclusion criteria. The average length of all spells combined was 28 months for AFDC and 23 for Food Stamps. The first spell during the study period averaged 25 months for AFDC and 19 for Food Stamps. These women appear not to be “cyclers,” recipients who go on and off public assistance on a frequent basis. No woman had more than three spells in 60 months, and most had only one.

There was a consistent pattern of negative marginal effects for the sexual-only category and mostly positive coefficients for the combined physical-sexual category. Chi-square tests revealed that the coefficients were different at the 95% confidence for the two models of first spells but insignificant for the models of all spells (results not shown). In three models out of four, the coefficients in the models of first spells were much greater than in the all-spells models. Nevertheless, the pseudo- R^2 was similar or lower for the first-spell models.

Extension: human capital variables

Notably absent from earlier models were human capital variables. Several items related to the respondent’s human capital were queried in the FIS, including own education, and high school fertility. Fertility is not human capital per se, but early fertility is strongly linked to dropping out of high school (Geronimus and Korenman 1992; Klepinger, Lundberg, and Plotnick 1999). FIS also captured the respondent’s wage, which depends heavily on human capital and determines eligibility for public assistance.

The models presented above included parental education and childhood welfare use. Although they may relate to childhood abuse, they are unlikely to be determined by it. The woman's own education and high school fertility were omitted, however, because they could be affected by childhood abuse. To determine whether the omission of human capital variables affected the results, I estimated the models again with the base model variables plus education and high school fertility. Results appear in Table 5. For brevity's sake, only marginal effects of the abuse variables are reported. Adding the human capital variables did not substantially change the model outcomes. The sign of the marginal effect changed in only one model, and in no case did it change the significance or insignificance of childhood abuse relative to the base model.

The impact on the magnitude of the abuse coefficients was mixed. Adding human capital variables raised the magnitude for both sexual-only and combined physical-sexual categories for extent of AFDC use but had a mixed effect on the probability of AFDC use. Adding the variables had no clear pattern of effect on Food Stamp use.

It appears that the presence or absence of two human capital variables often believed to affect later economic outcomes -- own education and early fertility -- does not substantially alter the relation of childhood abuse to welfare use in this sample. Separate models with log wage in place of education produced substantially similar results and thus are not reported.

Discussion

The results presented above indicate a strong association between childhood abuse and later use of welfare programs, although the effect was uneven across types of abuse. The combination of physical and sexual abuse was strongly correlated with substantially higher probabilities of receiving AFDC, Food Stamps, heating assistance, and subsidized housing. Experiencing only sexual abuse was

also correlated with a greater likelihood of using AFDC, although the marginal effect was smaller and less significant than for the joint physical-sexual abuse category. Experiencing physical abuse alone was not significantly associated with use of any program. Among AFDC and Food Stamp users, experiencing only sexual abuse was associated with substantially shorter total months, although not with the length of the first spell. A combination of physical and sexual abuse had no significant relation to spell length or total spell months. Adding own human capital in the form of education, early fertility, or log wage, does not substantially alter the results.

These findings are consistent with Nam and Tolman (2002), who studied a sample of poor women in Chicago. In that population, childhood abuse was associated with higher rates of welfare receipt among African-American women but not among Latinas. The authors did not differentiate between types of abuse. To my knowledge, no other study has directly investigated a link between childhood abuse and welfare use during adulthood.

There are several causal pathways that might link childhood abuse to employment outcomes. The abuse may cause lasting psychological harm that hinders employment-related attributes. Evidence from many surveys indicate that the combination of physical and sexual abuse has the most deleterious effect on adult mental health, including depression and PTSD (Schaaf and McCanne 1998; Hanson et al. 2001; Widom 1999). Even among incidences of sexual abuse alone, more types and longer periods of childhood abuse have been found to predict greater depression in young adults (Boudewyn and Liem 1995). Yet the duration of impact is unclear and could fade over time (Allard et al. 1997).

A second theoretical avenue of effect is on human capital accumulation, which is then reflected in lower wages. Psychiatric sequelae such as depression and PTSD may lower human capital accumulation. Schooling and work both require frequent contact with strangers, for example, something avoided by many people with PTSD. Abuse is also linked to higher rates of teenage

pregnancy, which in turn is strongly correlated with dropping out of high school (Klepinger, Lundberg, and Plotnick 1999; Ribar 1999). Summarizing the FIS data, Roper and Weeks (1993) report that “women who were abused growing up were more likely to engage in early sexual activity” (i.e., before age 15), “drop out of school before graduating, and become pregnant teens and teenage mothers.”

Despite these possibilities, the effect on human capital may not be strong. Lloyd (1996) found that only 20% of abused women said the abuse limited their education or work. And Table 5 shows that human capital appears to have little effect in this population as well. What could explain the weak link between childhood abuse and human capital? As noted above, the deleterious impact of abuse may fade over time. Welfare-to-work programs may overcome the impact of abuse by raising human capital, or by moving recipients directly into work.

A third possible linkage between childhood abuse and adult employment is abuse during adulthood. Rates of adulthood abuse are greater among women abused as children than among other women, both in the FIS (Roper and Weeks 1993) and in other surveys (Browne and Finkelhor 1986). It may be that childhood abuse has no direct effect on adult employment, but rather has an indirect effect through raising the likelihood of adulthood abuse. Yet the evidence for a disincentive effect of adulthood abuse on employment is lacking. In a review of literature on the link between adulthood abuse and work, Tolman and Raphael (2000) concluded that “previous research based on cross-sectional data has not demonstrated a significant association between current domestic violence and employment.” In part it depends on the definition of employment; Lloyd (1998) found that abused and unabused women had similar rates of employment over a 12-month period, but that abused women were less likely to be employed for 30 hours or more per week for a stretch of 6 months or longer.

Even if adult abuse does matter, it may not be possible to disentangle it from any residual impact of childhood abuse. Derr (1999) found that women abused as adults only had insignificantly different recent work histories as women abused both as adults and as children.

Another factor may be the recency and severity of the abuse. In a study of welfare users ages 18-54, Tolman et al. (2002) find that women experiencing abuse that was recent, persistent, and severe were “more likely to be welfare reliant or to have left welfare and not be working” than were other abused women. Many low-income women experiencing adulthood abuse do not experience it consistently. In a study of California women eligible for TANF Meisel et al. (2003) estimated that 54% of those interviewed in three consecutive years were abused, but only 8% were abused in each of the three years. A decline in reported current abuse from 70% to 23% was found by O’Campo et al. (2003) in a longitudinal study of low-income women.

There was a strong association between race (White vs. other) and the use of these programs. The mediating effect of race or Hispanic ethnicity on the link between abuse and work outcomes. has received little attention. In a study of low-income African-American and Latina welfare recipients, Nam and Tolman (2002) found that the link between current abuse and employment outcomes differed for Blacks and Latinas. The proportion of non-whites in the FIS was too small to allow separate analyses by race, or even meaningful interpretation of race-abuse interaction effects.

Conclusions

The findings presented here suggest a strong link between childhood abuse and welfare use. The link may be direct, such as through long-lasting psychological effects, or it may be indirect, working through an intermediary process. Psychological studies of women abused as children show substantially higher rates of depression and post-traumatic stress disorder, but these have not been

linked causally to welfare use. There is stronger support for an indirect link through adult abuse. Women abused as children are more likely than others to be abused as adults (Messman and Long 1996), and surveys of welfare recipients indicate that they have experienced abuse during adulthood at rates far higher than those of unabused women (Tolman and Raphael 2000). Abuse rates vary inversely with household income, however, and thus it remains unclear whether adulthood abuse is tied more to poverty than to the use of welfare programs.

A consistent finding of the analyses presented above is that different forms of childhood abuse have considerably different links to adult use of public assistance programs. The joint physical-sexual abuse category had a strong link to the probability of using all four programs studied: AFDC, Food Stamps, heating assistance (LIHEAP), and subsidized housing. It was also significantly related to months of AFDC use, although not to months of Food Stamps use. Physical abuse alone was unrelated to the probability of program use. Sexual abuse alone had a weakly significant relation to AFDC receipt but was unrelated to the use of other programs. Women experiencing only sexual child abuse had shorter spells of AFDC and Food Stamps receipt, conditional on any use during the study period.

There are several areas for further research. The FIS data precede the 1996 welfare reform law, which substantially increased work-related program requirements. Additional analyses with post-reform data would be necessary to determine whether childhood abuse continues to be significantly related to welfare use.

A second issue concerns help-seeking. Farmer and Tiefenthaler (1996) suggested that battered women may use stays in shelters to signal a willingness to leave. Several studies have assessed the impact of police-initiated legal tactics such as mandatory arrests (Schmidt and Sherman 1993; Maxwell, Garner, and Fagan 2001). A handful of studies, such as Carlson et al. (1999) have assessed

the impact of protective orders on the likelihood of revictimization. These approaches need to be placed within a coherent framework to guide policymaking and counseling.

A fundamental issue in the study of welfare and abuse is the impact of poverty, if any, independent of welfare use and child abuse. Poor households report more abuse, and abused children are more likely than others to be abused (and to be abusers) than are unabused children. Is the intergenerational transmission of violence really just transmission of income or class? Put another way, does the abuse cause the welfare, or are they both outcomes of poverty or some third, unobserved factor?

The answers to these questions will guide spending on anti-abuse measures. If the impact of childhood abuse stems from the abuse itself and not, say, from adulthood abuse, then it will be of little use to apply a remedy only at the point of entry into the welfare system. By that time, the damage caused by childhood abuse will already have had its impact. If the impact of childhood abuse is an indirect one through adulthood events, however, then it may be possible to neutralize the impact of the childhood abuse. Because preventive and remedial measures will differ substantially between those aimed at children and those at adults (which would undoubtedly be limited to welfare recipients, a select group of those abused as children), it will be important to understand better the links between abuse at any age and use of welfare programs.

Notes

1. A few FIS respondents also received modest cash payments under the state general assistance program, but too few to be modeled in a multivariate framework.
2. The set of two included indicators for 13+ years of education for each parent. The set of six included indicators for 12 years, 13+ years, or missing for each parent.
3. Some spells were right-censored. Average time receiving aid and the total amount received would be slightly higher if the study period were not censored.
4. Because only two women reported both use of AFDC or Food Stamps and physical abuse only, they were dropped from the analyses of the extent of program use. The underlying three-variable structure was maintained, however; the remaining abuse variables in those models were sexual abuse only and both physical and sexual abuse.

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Table 1. Descriptive Statistics

	Any Childhood Abuse (N=102)	No Abuse (N=204)
<u>Public Assistance Use</u>		
<i>Probability of Use</i>		
Any Program	.343 (.477)	.240 (.428) *
AFDC	.206 (.406)	.108 (.311) **
Food Stamps	.265 (.443)	.147 (.355) **
Heating Assistance (LIHEAP)	.167 (.375)	.132 (.340)
Housing Assistance	.137 (.346)	.103 (.305)
<i>Total Number of Months (among users)</i>		
AFDC	24.7 (18.7)	28.1 (21.3)
Food Stamps	20.0 (15.2)	24.3 (21.3)
<i>Length of First Spell (among users)</i>		
AFDC	19.4 (19.4)	24.5 (20.9)
Food Stamps	14.1 (13.7)	21.0 (21.3)
<u>Respondent Characteristics</u>		
Child Physical Abuse Only	.127 (.335)	.000 **
Child Sexual Abuse Only	.598 (.493)	.000 **
Child Physical and Sexual Abuse	.275 (.448)	.000 **
White	.951 (.217)	.863 (.345) **
Hispanic	.039 (.195)	.064 (.245)
Age	37.7 (9.03)	39.4 (11.0)
Age Squared / 100	15.1 (7.26)	16.8 (9.83) *
Own Education = 12 Years	.539 (.501)	.539 (.500)
Own Education > 12 Years	.245 (.432)	.539 (.500)

** p<.05 * p<.10 for test of difference between any-abuse and no-abuse groups

Table 1. Descriptive Statistics (cont'd)

Family Background

Mother's Education = 12 Years	.471 (.502)	.456 (.499)
Mother's Education > 12 Years	.225 (.420)	.235 (.425)
Mother's Education Missing	.049 (.217)	.098 (.298)
Father's Education = 12 Years	.343 (.477)	.333 (.473)
Father's Education > 12 Years	.206 (.406)	.270 (.445)
Father's Education Missing	.147 (.356)	.142 (.350)
Childhood Household on Welfare ¹	.275 (.448)	.108 (.311) **

Other Variables

Predicted Log Hourly Wage (\$)	2.03 (.175)	2.01 (.189)
County Unemployment Rate (1/88)	8.34 (4.15)	8.65 (4.12)
Avg. County Unemp. Rate	8.24 (4.29)	8.65 (4.48)

** p<.05 * p<.10 for test of difference between any-abuse and no-abuse groups

¹ The question asked whether the respondent's parents ever received public assistance when the respondent was growing up.

² Unweighted average of rates in January of each study year, 1988-1992.

Table 2. Criteria for Specifying Abuse Variables¹

	Number of abuse categories		
	1	2	3
<u>AFDC</u>			
Akaike IC	<u>.763</u>	.766	.772
Bayesian IC	-1450.3	-1445.8	<u>-1440.1</u>
<u>Food Stamps</u>			
Akaike IC	.938	<u>.930</u>	.936
Bayesian IC	-1397.2	-1395.8	<u>-1390.2</u>
<u>Housing Assistance</u>			
Akaike IC	.795	.795	<u>.792</u>
Bayesian IC	-1444.2	<u>-1440.4</u>	-1441.6
<u>Heating Assistance (LIHEAP)</u>			
Akaike IC	.709	.704	<u>.701</u>
Bayesian IC	-1466.7	-1464.5	<u>-1461.6</u>

¹ From probit models of the likelihood of using the specified programs. ‘IC’ is Information Criterion. The best (lowest) value in each row is underlined. Beyond the abuse indicators, regressors included age, age squared, Jan. 1988 county unemployment rate, and indicators for White race, Hispanic ethnicity, chronic illness of the woman’s youngest child, parents’ education (six in all), and welfare use during the woman’s childhood.

Table 3. Probability of Program Use: Marginal Effects ¹

	AFDC	Food Stamps	LIHEAP (Heating)	Subsidized Housing
Physical Abuse Only	.125 (1.13)	.146 (1.25)	-- ²	-.042 (0.86)
Sexual Abuse Only	.093 (1.81)*	.062 (1.07)	.056 (1.10)	-.007 (0.17)
Physical and Sexual Abuse	.180 (2.30)**	.290 (3.12)**	.176 (2.17)**	.171 (2.41)**
Age	-.009 (0.88)	-.010 (0.71)**	-.005 (0.44)	-.014 (1.45)
Age Squared	-.009 (0.81)	.004 (0.24)**	.003 (0.23)	.010 (0.95)
White	-.229 (2.81)**	-.189 (2.28)**	-.235 (3.20)**	-.109 (1.76)*
Hispanic	.051 (0.58)	-.050 (0.55)	.191 (1.91)*	.071 (0.91)
County Unemployment Rate	-.004 (0.75)	.000 (0.04)	-.001 (0.17)	-.010 (1.94)*
Chronic Illness of Youngest Child	.215 (3.25)**	.228 (2.72)**	.206 (2.98)**	-.012 (0.20)
Family controls [chi-square] ³	7.68 (p=.36)	8.70 (p=.27)	5.26 (p=.51)	11.0 (p=.14)
Pseudo R-squared	.154	.147	.163	.176
No. Obs.	306	306	306	306

Table 3, cont'd

¹AFDC includes FIP. Figures are marginal effects and absolute value of z-statistics from probit models. Models also included intercept term. Asterisks for age and age squared reflect joint significance from a chi-square test. * $p \leq .10$ ** $p \leq .05$

² Omitted because no women reporting 'physical abuse only' used the program.

³Family controls included indicators for parents' education (six in all) and childhood welfare use.

Table 4. Extent of Program Use among Users: Marginal Effects ¹

	Total Months		Months in First Spell	
	AFDC	Food Stamps	AFDC	Food Stamps
Physical Abuse Only	--	--	--	--
Sexual Abuse Only	-2.94 (0.64)	-.059 (0.01)	-9.73 (2.27)**	-5.83 (1.72)*
Physical and Sexual Abuse	-9.12 (1.65)*	1.15 (0.22)	9.27 (2.07)**	3.64 (0.81)
Age	-2.93 (1.40)**	-2.44 (1.54)	-2.44 (1.28)*	-2.78 (2.58)**
Age Squared	2.65 (0.98)**	2.73 (1.46)	2.22 (0.96)*	2.83 (2.33)**
White	-3.24 (0.53)	-6.88 (1.10)	-9.86 (1.43)	-6.86 (1.19)
County Unemployment Rate	-1.73 (2.38)**	-.355 (0.55)	-2.74 (3.93)**	-0.63 (0.91)
Chronic Illness of Youngest	2.25 (0.27)	-10.7 (1.54)	5.74 (0.61)	-11.7 (2.11)**
First spell in years '88-'89	-32.2 (3.53)**	-13.9 (2.47)**	-26.0 (8.27)**	-4.86 (0.81)
First spell in years '90-'91	-41.1 (5.77)**	-20.8 (4.89)**	-28.5 (4.70)**	-10.4 (2.13)**

Table 4, cont'd

	Total Months		Months in First Spell	
	AFDC	Food Stamps	AFDC	Food Stamps
Family controls [chi-square] ²	9.34 (p=.23)	4.52 (p=.72)	21.6 (p<.01)	13.0 (p=.07)
Pseudo R-squared	.122	.072	.110	.083
No. Obs.	37	52	37	52
Dependent variable				
mean (std. dev.)	28.2 (19.2)	23.1 (18.3)	24.9 (19.9)	18.9 (18.2)

¹Marginal effects and absolute values of z-statistics from negative binomial models.

³Family controls included indicators for parents' education (six in all) and childhood welfare use.

* p<= .10 ** p<= .05

Table 5. Models with Human Capital: Marginal Effects of Abuse Variables¹

	Physical Only	Sexual Only	Both Physical & Sexual
AFDC			
<hr/>			
I. Probability of Use			
Base model	.129	.093*	.180**
Base + education + HS fertility	--	.087*	-.189**
II. Total Months			
Base model	--	-2.94	-9.12*
Base + education + HS fertility	--	-4.71	-10.4**
III. Length of First Observed Spell			
Base model	--	-9.73**	9.27**
Base + education + HS fertility	--	-11.4**	-10.8**
Food Stamps			
<hr/>			
I. Probability of Use			
Base model	.147	.062	.290**
Base + education + HS fertility	.058	.058	.288**
II. Total Months			
Base model	--	-.059	1.15
Base + education + HS fertility	--	-.553	1.93

Table 5, cont'd

	Physical Only	Sexual Only	Both Physical & Sexual
III. Length of First Observed Spell			
Base model	--	-5.83*	3.64
Base + education + HS fertility	--	-5.56*	4.88

¹Marginal effects from multivariate regression models. Additional regressors included age, age squared, Jan. 1988 county unemployment rate, and indicators for White race, Hispanic ethnicity, chronic illness of the woman's youngest child, parents' education (six in all), first spell in 1988-1989, first spell in 1990-1991, and welfare use during the woman's childhood.

* $p \leq .10$ ** $p \leq .05$