

PAYING A SECOND PRICE: INVESTIGATING LONG-TERM INFLUENCES OF
INTIMATE PARTNER VIOLENCE ON WOMEN'S FINANCIAL ATTAINMENT

A Thesis

by

JESSICA LORRAINE GARCIA

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Chair of Committee,	Holly Foster
Committee Members,	Mary Campbell
	Nancy Downing
Head of Department,	J. Kevin Barge

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ABSTRACT

This paper uses a life course perspective to examine the association between intimate partner victimization of women (particularly sexual victimization) after adolescence and economic attainment in adulthood. It hypothesizes that the long term financial effects of intimate partner sexual violence are partially masked when physical and sexual intimate partner violence are analyzed together. This hypothesis was supported by the data.

CONTRIBUTORS AND FUNDING SOURCES

Contributors

This work was supervised by a thesis committee consisting of Professor Holly Foster [advisor] and Professor Mary Campbell of the Department of Sociology and Professor Nancy Downing of the Department of Forensic Nursing.

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1. INTRODUCTION

In 2010 alone, the National Intimate Partner and Sexual Violence Survey reported that about 3.5 million women in the United States experienced rape or another form of sexual violence by an intimate partner (Black et al. 2011). This data comes from a nationally representative data set of the American population examining the links between intimate partner/sexual violence and “major public health problems” such as physical and mental health issues (Black et al. 2011:7). About 80% of the women surveyed who reported any form of Intimate Partner Violence (IPV) also reported negative impacts on their life. These included mental & physical health symptoms, needing legal or victim advocate services, or missing work/school (Black et al. 2011).

This paper uses a life course perspective to examine the association between intimate partner victimization of women (particularly sexual victimization) after adolescence and economic attainment in adulthood. Previous studies have explored some of the mental and physical effects of intimate partner violence (Coker et al. 2002; Gehring and Vaske 2017; McFarlane et al. 2005 amongst others), but few have studied economic consequences (Browne et al. 1999); and even fewer have attempted to parse out the effects of physical and sexual violence (Messing et al. 2014).

Work by Ross Macmillan (2001; 2000) provides an excellent framework for conceptualizing the economic costs of victimization, giving particular attention to the often-ignored long term costs. Macmillan and Hagan (2004) apply this theoretical framework to examine the socioeconomic effects of other types of violent victimization, but do not specify intimate partner violence or separate sexual from physical violence. They found that adolescent

victimization decreases educational self-efficacy which in turn leads to a lower educational performance and decreased socioeconomic fortunes in adulthood (Macmillan and Hagan 2004).

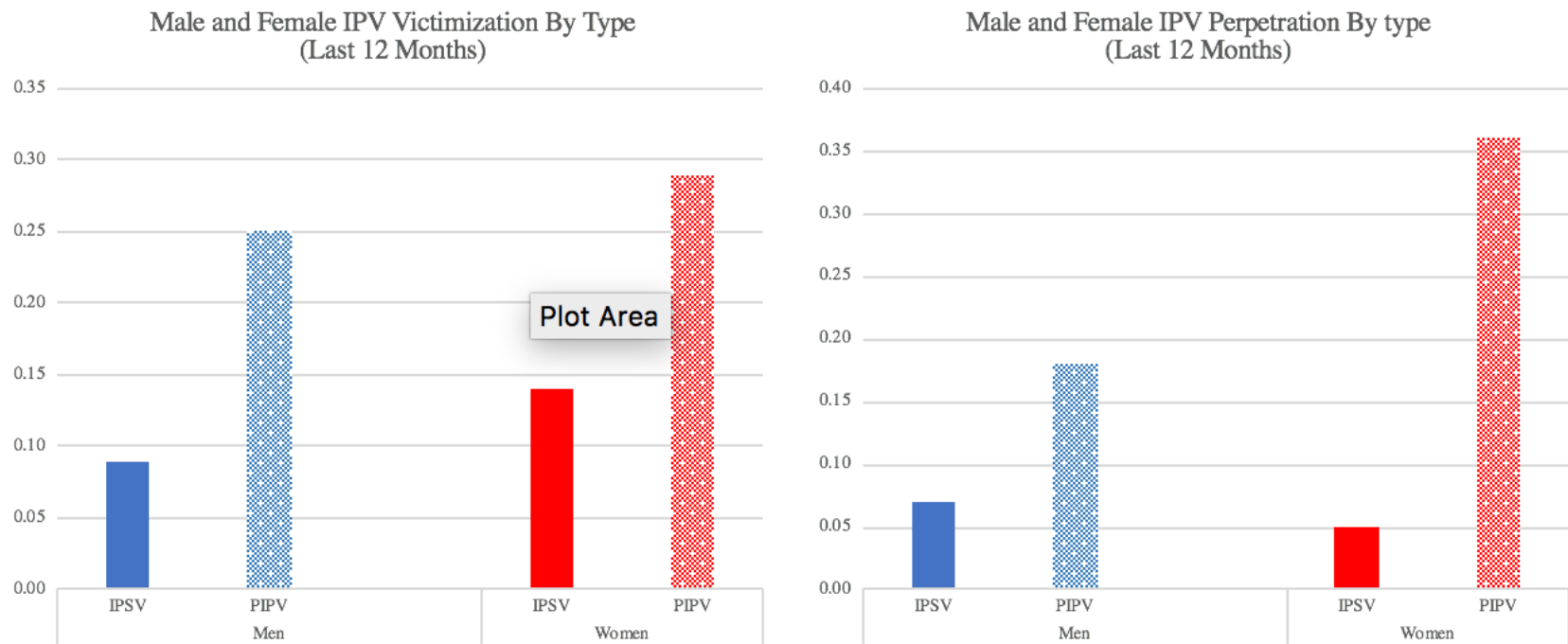
I chose to give this study a narrower focus by only examining female cases. I did this for several reasons. In Figure 1, I have measures of intimate partner violence (IPV)/intimate partner sexual violence (IPSV) victimization and perpetration by gender. Consistent with Johnson's (1995) concept of 'Patriarchal Terrorism' defined as "systematic male violence" (283) and the National Intimate Partner and Sexual Violence Survey noted earlier (Black et al. 2011), the percentage of women in Figure 1 from the Add Health dataset who report IPSV victimization is significantly larger than the men. As Patriarchal Terrorism is overwhelmingly perpetrated against women, I felt it necessary to focus my analyses in on women's experiences.

Here, I try to answer three specific research questions in regards to a female-only sample:

- (1) Does violent victimization (in this case intimate partner violence) occurring after the adolescence stage of life have significant impacts on earnings later in life?
- (2) Does the current way of calculating the costs of crime neglect to take into account long-term, indirect effects on income?
- (3) Has previous literature masked or underestimated the effects of intimate partner *sexual* violence by combining it with other forms of violence for analyses?

Figure 1. Male and Female Intimate Partner Violence Victimization and Perpetration Shown by Type Using Add Health Wave III

Prevalence of Reported Experiences of Intimate Partner Violence



PIPV: intimate partner violence

2. REVIEW OF LITERATURE

A Life Course Perspective on Victimization

In regards to criminal offenses over the life course, Glen Elder forwards five principles that must be taken into consideration: historical time and place, timing in lives, linked lives, human agency, and development over the life course (Elder 1998; Elder, Crosnoe, and Kirkpatrick 2003). Of particular interest for this paper is the concept of timing in lives. Elder describes the impact of timing in lives by stating that “the developmental impact of a succession of life transitions or events is contingent on when they occur in a person’s life” (1998:3). Simply, this means that *when* an event happens in one’s life can be just as important as *which* event happens. Additionally, it has been well documented that the amount of crime in a population follows the age-crime curve (i.e. it peaks around adolescence and sharply decreases with age (Hirschi and Gottfredson 1983). Foster and Brooks-Gunn (2017) argue that studying IPV in late adolescence/during the transition to adulthood is particularly important because of this peak in IPV perpetration and victimization. Both of these concepts originally developed to explain crime perpetration – the age-crime curve and the importance of timing in lives – have been connected to studies of victimization (Macmillan 2001).

In the same way that turning points such as marriage or employment can increase social bonds and lead to desistance from crime, violent victimization can serve as a negative turning point (Macmillan 2001). For example, interpersonal victimization increases women’s risk for unemployment and lowers their average income (Byrne et al. 1999). Macmillan studied the way that decreased self-efficacy can limit one’s economic attainment, specifically for violent victimization, ultimately noting that most of the effects of victimization on socioeconomic status are mediated by a disruption in educational attainment (Macmillan 2000). He theorized that

because the financial consequence comes from a disruption in education, violent victimization after adolescence (a stage of life where educational capital has generally already been accumulated) “may ultimately have few life course consequences” (Macmillan 2001:6). While violence experienced early in the life course will have the *greatest* overall effect on a person’s trajectory, I believe more investigation is needed for victimization after adolescence - particularly sexual crimes and intimate partner violence.

As shown in Appendix A, I propose a theoretical model where the IPSV Victimization in Wave III (age 18-26) has a direct effect on income at Wave IV (Path E) as well as effects that are mediated by total educational attainment at Wave IV (Paths A and B). Controls of demographic variables and other forms of victimization and perpetration will also affect both IPSV Victimization at Wave III and Income at Wave IV.

Add Women and Stir? The Generalizability Problem in Criminology

Historically, women (as both victims and perpetrators) have been largely ignored in criminology (Chesney-Lind and Morash 2013). It is because of this that Daly and Chesney-Lind (1988) identified what has come to be known as the “generalizability problem” amongst feminist criminologists. That is, how do the theories of crime and victimization that were developed to explain the behaviors of (white) men fare when applied to women?

Some of the seminal works in life course criminology have been criticized for a lack of diversity in their sample (see for example: Sampson and Laub 1993 and Laub and Sampson 2003). In response, other researchers have tested some of these theories using samples that include women, with mixed results. For example Sampson and Laub (1993 and 2003) found strong evidence for marriage as a turning point for increased social control and therefore desistance, but in Peggy Giordano’s study with women, she did not find significant effects for

marriage on desistance (Giordano 2010). It is these discrepancies that show a need to study topics in criminology through a “gendered lens” (Britton et al. 2018). This study attempts to take a gendered lens approach to studying intimate partner violence by looking at consequences and experiences that may be specific to women.

One important and applicable example of the gendered lens is Michael Johnson’s (1995) distinction between common couple violence and patriarchal terrorism. There has been much debate over whether men and women perpetrate intimate partner violence at similar rates – known as the gender symmetry debate (Dobash et al. 1992). Some studies indicated that framing intimate partner abuse as a gendered problem with males as the typical abuser and women as the typical was misleading; in these studies men and women reported violence against their partners at about the same rates (Straus 2007; Straus and Gozjolko 2016; Dutton 2008). Other studies indicated that women were more likely to be victims of intimate partner violence than men (Coker et al. 2002).

When trying to understand why this could be, feminist researchers pointed out that even when there is gender symmetry in intimate partner violence perpetration, impact and injury were significantly greater for women than for men (Archer 2002, Johnson 1995). Johnson identified two qualitatively different kinds of intimate partner violence – common couple violence and patriarchal terrorism (1995). Common couple violence is perpetrated at about the same rates by men and women but only takes into consideration the frequency of different kinds of violence (usually measured with the Conflicts Tactics Scale), ignoring severity. On the other hand, patriarchal terrorism is characterized by the use of fear and control exerted over one partner by the other. This kind of violence, he found, is overwhelmingly perpetrated by men against women

and takes into consideration fear, power, and severity of damage inflicted along with the frequency of different types of abuse (Johnson 1995).

This distinction between typologies of intimate partner violence is important because of the differential consequences. Due to its one-sided nature and emphasis on power and control, one would expect patriarchal terrorism to have significant lasting effects on its victims whereas common couple violence may not.

What is IPSV?

Thus far, I have mostly been discussing intimate partner violence in the aggregate, not separated by different kinds of violence. General intimate partner violence (IPV) can include physical (PIPV), emotional, and sexual violence (IPSV). In this paper, one of my objectives is to parse out the potentially differential effects of intimate partner physical and sexual violence. Previously in the literature, IPV has been treated as a monolithic experience. People who experienced sexual abuse at the hands of their partner were grouped in with those who only experienced physical abuse. Intimate partner sexual violence includes sex with a partner that is physically forced or coerced. Because of the low reporting rates of sexual crimes in general (Ferro et al. 2008) it is likely that IPSV is underreported compared to other forms of IPV. IPSV is also highly correlated with other forms of IPV, although estimates of how many women reporting IPV also report IPSV varies from 43% among women who experienced police-involved intimate partner violence (Messing et al. 2014) to up to 68% in a sample of women seeking a protective order against their partner (MacFarlane et al. 2005). This underreporting and collinearity could be one explanation of why IPSV is usually combined with other forms of IPV for analyses in the literature. However, for the purposes of this study, I am separating them in

order to see if there are in fact different consequences as has been suggested by previous research (Messing et al. 2014).

Consequences of IPV and IPSV

Because most studies on the consequences of IPV for victims fail to distinguish between IPSV and other forms of IPV, it's difficult to say which consequences are specific to sexual violence. That being said, intimate partner violence (in its more general form) has been linked to an array of negative consequences for physical, emotional, relational, and financial wellbeing (Foster and Brooks-Gunn 2017; Coker et al. 2002; Decker et al. 2014; Yoshihama et al. 2006).

Studies have found that violent victimization fundamentally changes the way that an individual views themselves and their relationship to society (Fischer 1984). In work on victimization, Macmillan posits that violent victimization “undermines individual perceptions of agency and self-efficacy” and “indicat[es] others as sources of threat or harm rather than social support” (Macmillan 2001:12). Like other violent crimes, IPV can lead to mental health problems such as symptoms of depression, anxiety, and PTSD (Anderson et al. 2018; Coker et al. 2002; Decker et al. 2014; Messing et al. 2014). Experiences of intimate partner physical violence has also been linked to increased alcohol problems and drug use in both same-sex and different-sex relationships (Gehring and Vaske 2017; Coker et al. 2002; Carbone-López et al. 2006). In one study that did operationalize sexual violence separately from other forms of IPV, Jill Messing and colleagues (2014) found that women who experienced sexual violence were more likely than victims of other kinds of IPV not including sexual violence to report adverse mental health effects such as feelings of shame and PTSD.

Exposure to IPV has also been linked to physical health adversities. Some of these effects are more direct, such as injuries sustained in the process of IPV episodes (Decker et al. 2014), while

others are long term and indirect (Coker et al. 2002). For example, when asking women about 30 different symptoms related to physical well-being, those who reported recent IPV victimization also had a higher prevalence rate for almost every one of the negative health markers ranging from indigestion and muscle cramps to chronic pain and activity limitations (Sutherland et al. 2001).

Lastly, and most relevant for this paper, are the financial effects experienced by victims of IPV. There is a long-standing stereotype that women at lower socio-economic status levels are more likely to be victims of IPV *because* of their low status. However, this belief can be harmful and misleading. Using a life history calendar, one study interviewed a group of welfare recipients about times that they were and were not on welfare and how those periods coincided with experiences of IPV and concluded that IPV is a *cause* of poverty rather than a result (Yoshihama et al. 2006). This idea is expanded on by Cheryl Sutherland and colleagues (2001) who link together poor physical health and poverty into a repeating cycle. Each gradually makes the other worse, sending people into a downward spiral. Western also touches on this idea with his discussion of human frailty in which he posits that poverty and poor physical health can create “a physical reality that limits a person’s capacity to think clearly, without pain, and to bring energy to daily affairs” (Western 2011:60). While these studies have done a great deal to further our understanding of the financial effects on IPV victims, I believe there is still more work to be done in uncovering potential differences in the types of violence being experienced.

Current Costs of Crime Analyses

Costs of crime have been calculated by some criminologists to measure the financial impact of a crime on an individual or society. They are used to judge the cost effectiveness of crime

prevention and control programs and other policies in the criminal justice system (Czabanski 2008). However, one problem with this process is that it tends to only focus on short term costs, omitting costs that are incurred years later. Traditionally costs of crime calculations measure four different things: 1) out of pocket costs incurred by the victim, including costs such as property damage; 2) costs associated with physical injury from the crime such as medical expenses or hospital stays, including what is covered by insurance; 3) lost wages/decreased productivity that result from having to miss work; 4), and most difficult to measure, costs of decreased quality of life from psychological trauma (Macmillan 2000; Czabanski 2008). An estimated 50% of sexual assault victims incur these costs for mental health services treating PTSD, breakdowns, and suicide attempts (Macmillan 2000). The less tangible piece of this, reduced quality of life, is usually quantified using the amount that a jury would award the victim of the crime in a civil case. For sexual assault this is usually estimated to be about \$81,000, compared to only about \$8,000 for victims of assault or robbery (Macmillan 2000). When looking at the total cost of crime, the costs of sex crimes are consistently higher than of any other crime (Macmillan 2000). This is yet another indication that the effects of IPSV may differ from other forms of IPV.

3. HYPOTHESES

1. Intimate partner violence will lead to decreased earnings later in life.
 - a. Women who report experiences of physical IPV at Wave III of Add Health will have lower incomes at Wave IV, meaning they will be more likely to have incomes in the lowest quartile of the personal income distribution (compared to the referent category of the middle 50%).
2. The effects of intimate partner sexual victimization are understated when all forms of intimate partner violence are combined for analyses.
 - a. IPSV and PIPV will have different influences on income attainment at Wave IV, I anticipate IPSV have a more negative impact than PIPV.

4. METHODS

All analyses were done using the public-use file of the National Longitudinal Study of Adolescent Health (Add Health) in Stata 15. Add Health follows a group of nationally representative students from seventh grade (1994-1995) through adulthood. Currently Add Health consists of five waves, including additional data on parents, romantic partners, and siblings (Harris et al. 2009). These analyses primarily draw from Wave III when respondents were aged 18-26 (for measures of IPV victimization) and Wave IV when respondents were aged 24-32 (for income), but include control variables from other waves as well.

Add Health uses a clustered sampling design with unequal probability for the clusters (Chen and Chantala 2014). Because of this, all analyses were performed with the appropriate sample weight and survey adjusted data analysis procedures. Add Health oversampled groups such as black children with college graduate parents in order to ensure enough participants in those groups for robust analyses (Chen and Chantala 2014). Oversampled groups are then weighted so that they only have effects on the analyses proportional to their share of the whole population. This step is particularly relevant to this paper because of the stereotype discussed earlier about minority and low SES women as more likely to experience IPV (Yoshihama et al. 2006; Sutherland et al. 2001).

The entire public-use sample of Add Health consists of 6,504 respondents. The use of listwise deletion does introduce limitations to this study which will be discussed below. After dropping all men, those who did not participate in all 4 waves, and those with missing data (n=858), I was left with a sample size of n=973. I ran an analysis of the data dropped due to missing cases to see whether using multiple imputation will be helpful in the future. The results

can be found in Table 1 below. As shown in Table 1, the variables leading to the largest amounts of dropped cases are income (41% at Wave III and Wave IV), respondent education (34%), and parent financial help (36%). Using multiple imputation could potentially decrease the number of cases lost due to missing data, but it should be noted that a significant portion of them would not be recovered because of missing values on the dependent variable (Von Hippel 2007).

Table 1: Analysis Of Cases With Missing Variables, N=858

Variable	Missing Cases	Percent of Dropped Data
IPV Victimization	34	4%
IPV Perpetration	34	4%
IPSV Perpetration	36	4%
IPSV Victimization	34	4%
PIPV Perpetration	31	4%
PIPV Victimization	32	4%
Race	5	1%
Parent Education	18	2%
Age	0	--
Respondent Education	290	34%
Wave III Income	348	41%
Wave IV Income	355	41%
Childhood Neglect	110	13%
Childhood Sexual Abuse	114	13%
Childhood Physical Abuse	88	10%
Two Parent	0	--
Parent Financial Help	313	36%

Analytic Plan

Multinomial logistic regression allows researchers to compare how independent variables affect the odds of being in each different category of dependent variable. I use this method for the study because I aim to determine how several variables influence the odds of a person being in the upper or lower quartile of Wave IV income compared to the middle 50%. In all analyses,

the middle 50% of the sample (by wave IV income) serves as the reference category. To compensate for cluster sampling and the oversampling of certain groups of interest, all analyses are survey-adjusted using the Wave IV longitudinal weight variable as suggested in the User Guide (Harris et al. 2009). In the public use dataset, there is no strata variable available. However, using one “would only minimally affect the standard errors” (Chen and Chantala 2014: 24).

Variables

The focal independent variable for this analysis is whether or not a woman has reported experiences of intimate partner victimization in the last twelve months. The dependent variable is her income, split into upper and lower quartiles with the middle 50% of the sample serving as a reference category. A comprehensive table detailing the exact working of each survey question used as well as how all variables were operationalized and coded is provided in Appendix B.

Figure 2 below shows the theoretical model this paper is based on. Pathway E shows H2 -that IPSV victimization at Wave III will have an effect on income even when controlling for physical IPV victimization. Paths A-B highlight the mediating relationship that I expect to find from total educational attainment.

As shown in Figure 2 below, there is a large difference in the types of IPV reported (both for perpetration and victimization). Although at first glance one might see the left half of Figure 3 and assume that women are abusing their partners at the same rate at which they are being abused (the kind of pattern associated with common couple violence typologies), when shown the differences by type as in the right graph, we see that more than 3 times the amount of women in the sample report sexual violence victimization than perpetration.

Figure 2: Theoretical Model

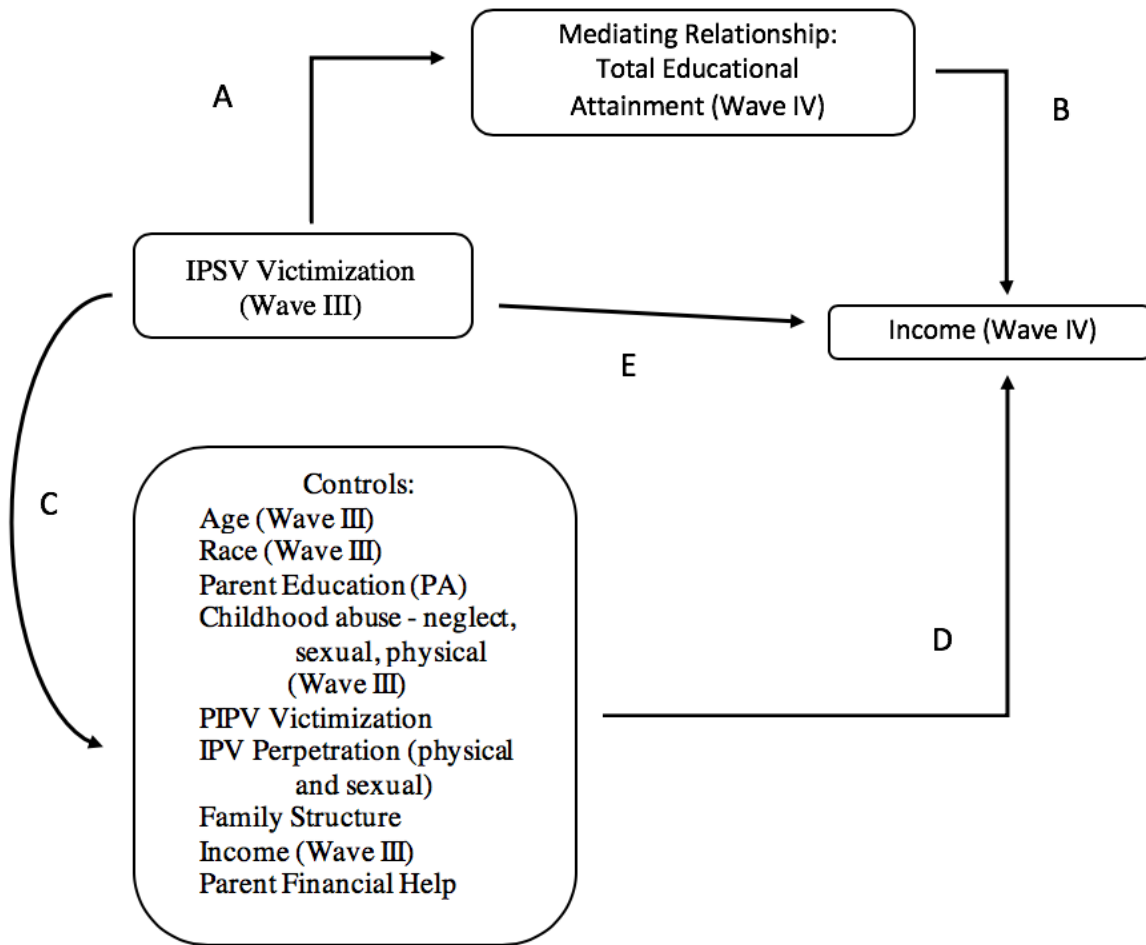
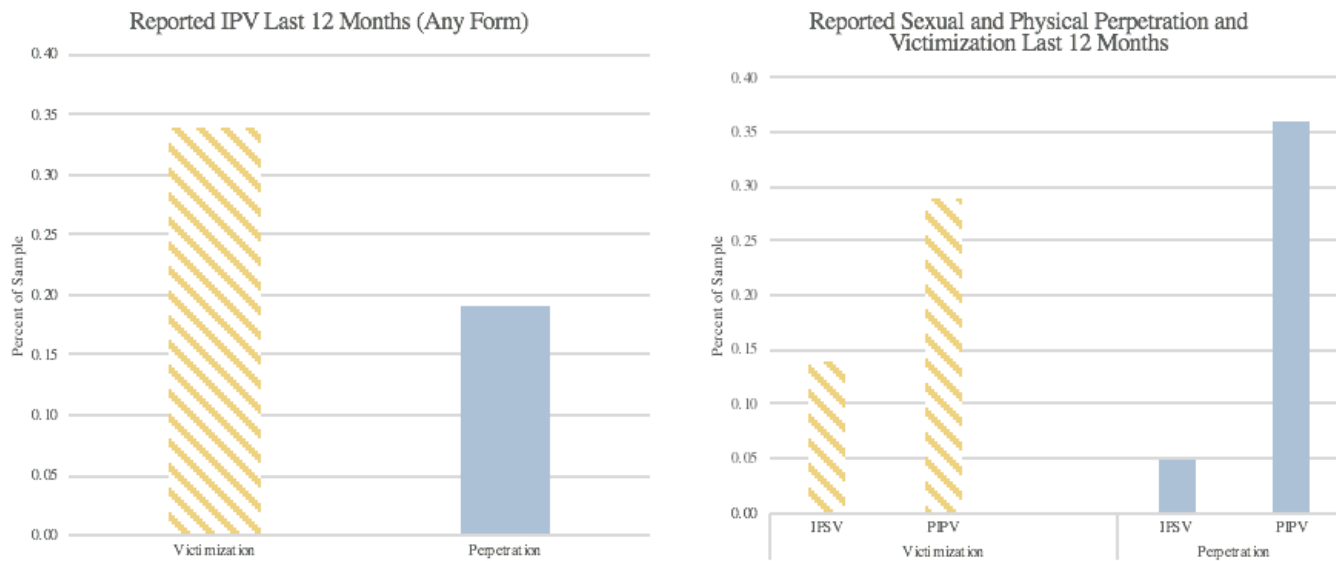


Figure 3. Female Intimate Partner Violence Victimization And Perpetration Shown By Type Using Add Health Wave III, n=973

Sample Prevalence of Reported Experiences of Intimate Partner Violence



IPV Victimization/Perpetration.

Data on all IPV victimization and perpetration comes from the “In-Depth Relationships” questionnaire from Wave III. All variables were originally reported with relationship as the unit of observation. Because each individual could and often did report more than one relationship, first created all variables by relationship, then collapsed the dataset in order to have one observation per individual as the unit of analysis using Stata 15’s ‘collapse’ command (StataCorp 2017). This left each respondent with an IPV variable indicating whether or not they had reported any experiences of IPV in any relationship in the past 12 months.

For each relationship reported respondents were asked questions about perpetration and victimization of different kinds of violence (including physical and sexual). All IPV variables in this analysis are binary and reflect only the 12 months prior to the interview. For those who report more than one relationship during this time frame, if there is any violence indicated in any of the relationships reported for that person, then they were coded as having experienced violence. IPSV measures ask respondents to select how often in the last year their partner had “insisted on or made [them] have sexual relations when [they] didn’t want to.” It is important for this study that the wording of this question does not include words such as ‘rape,’ ‘assault,’ or ‘victim.’ Not all people who report IPSV see themselves as victims or understand their experience as rape. Karlijn Kuijpers studied the partnered sample of Add Health and found that “disagreement is the norm” when partners were asked about both frequency and severity of different kinds of intimate partner violence (Kuijpers 2019:1). Two separate binary variables were measured, one for perpetration of IPSV and the other for IPSV victimization.

PIPV measures are a compilation of three questions modified from the Revised Conflicts Tactics Scale (Straus et al. 1996). An indication of any of the types of violence for any

relationship listed coded a person as a having experienced PIPV. Again, these variables were measured separately for PIPV victimization and PIPV perpetration.

Lastly, I made combined IPV (all forms) variables for victimization and perpetration. This is a binary variable indicating if a person has experienced IPSV or PIPV and a binary variable indicating if they have been a perpetrator of IPSV or PIPV. I do this in order to test the differences in combined IPV (as most previous studies have done) and separating for effects unique to sexual violence.

I tested for multicollinearity using pairwise correlations in Stata 15 (StataCorp 2017). Because multinomial logistic regression is not linear, I could not use another method like VIFs which would test each variable's impact on the model. It should be noted that I found moderate collinearity issues between the perpetration and victimization variables discussed above. Most notably between IPSV Victimization and Perpetration (.47), PIPV Victimization and Perpetration (.59), and IPV (all forms) Victimization and Perpetration (.57) all significant with 95% confidence². A full correlation matrix is shown below in Appendix C. I argue that all variables should still be included in the model as is. First, since Add Health does not provide data on severity of abuse or the other factors identified by Johnson (1995) as indicating Patriarchal Terrorism, controlling for whether a person is also a perpetrator of IPV provides important context for the kind of victimization they experience. Further, there is evidence to show that increasing the sample size can help offset the effects of multicollinearity in regression analysis (Dolnicar et al. 2016). Therefore, running these analyses with the full restricted-use sample of Add Health as I plan to do in further research will help solve this.

To further test the differences between IPSV and PIPV, I ran analyses comparing groups on IPSV Victimization only (n=24), PIPV Victimization only (n=183), and IPSV and PIPV Victimization (n=59).

Income

The dependent variable for this analysis, personal income at Wave IV, was recoded into an ordinal variable. Because the range and standard deviation was so large, I thought it best to divide income into categories. In order to set apart those with unusually high or low incomes, I ended with three groups: upper quartile, middle 50%, and lower quartile. The middle 50% serves as the reference group for all analyses. I intentionally choose to use personal income over household income for several reasons. First, household incomes would include the income of a spouse or other adult living in the household. This would make it more difficult to parse out effects of victimization because there is a good chance that the perpetrator of the violence being measured would be included in household income. Second, household income may confound the results by trying to compare one-income households to households with additional breadwinners. All income was reported in 2008, and will be compared to the 2008 national poverty thresholds in the discussion section.

I also used income at Wave III as a control variable to allow for a lagged effect model. This ensured that I would be measuring the change in income between Wave III and Wave IV and helps build a stronger case for causation between IPV and income.

Age

Age is recorded as the age of a respondent at Wave III. I used a variable that gives the age of the respondent at the time of Wave III interviews that has been calculated by Add Health using

the respondent's birth date. I chose to control for age because of Macmillan's (2001) assertion that age can moderate the effects of violent victimization on economic attainment.

Race

Race was self-identified by the respondent at Wave III and was recoded to create a series of dummy variables: White (Non-Hispanic), Hispanic, black or African American, and Other Race. Any respondent who reported that they were Hispanic were coded as Hispanic, regardless of what other races they indicated. For those who indicated more than once race (and did not include Hispanic), they were coded by their response to a later question asking "which one category best describes your racial background?"

Educational attainment

Respondents were asked to list all degrees or diplomas that they had received by Wave IV. The data associated with this question was recoded in order to be broken down into only two dummy variables, high school degree and college degree, with a person who has neither as the reference point. High school degree includes those who report that their highest degree is a GED, high school equivalency degree, or a high school diploma, and college degrees includes anyone who has an associate degree, junior college degree, bachelor's degree or any professional/post graduate degree. Macmillan (2001) found that most of the effects of violent victimization on economic attainment were mediated by education, making this an important variable to control for. Models were run with and without educational attainment as a control variable.

Parental Education

During Wave I respondents' parents were asked how far they went in school. This variable is on a scale of 0 (no school) to 9 (professional training beyond a four-year college or university). This variable serves as a proxy for measuring parental SES. It was chosen over parental income

because there are less missing data. To deal with the large number of missing data, I imputed data from another question asked to the students about their residential mother and father's highest level of education. This data was only taken into consideration for those participants whose parent education was missing from the question asked to their parents. I coded the highest education attained by either their residential mother or father (if both were listed I took the highest education overall). This drastically lowered the amount of missing data.

Childhood Abuse

Childhood abuse is measured in three dummy variables indicating whether or not a person experienced neglect, physical, or sexual abuse from parents or other adult caregivers before the beginning of 6th grade. These variables will be constructed from questions asked in Wave III. For childhood neglect, I use: "How often had your parents or other adult care-givers not taken care of your basic needs, such as keeping you clean or providing food or clothing?" For physical abuse I use "How often had your parents or other adult care-givers slapped, hit, or kicked you?" and for sexual abuse, "How often had one of your parents or other adult care-givers touched you in a sexual way, forced you to touch him or her in a sexual way, or forced you to have sexual relations?" Any respondent indicating that any of these had happened to them will be coded as yes for that measure of abuse. I chose to measure this variable in a binary rather than a scale to mirror the way that IPV was measured as well as because even one instance of child abuse can have lasting effects on the life course. Young women who experienced varying forms of child abuse were more likely to experience IPV later in life *and* were more likely to experience other income-disrupting events in the life course such as early parenthood or dropping out of high school (Foster et al. 2008).

Family Structure

In order to look at respondents' family structure, I examined the series of questions asking about who they live with. Respondents can list up to 20 household members and are asked to describe their relationship to each member. I considered biological mother/father, step mother/father, adopted mother/father, and other mother/father to be parental figures.

Respondents who indicated that they live with any two parental figures were coded to be in a "two-parent household," and respondents who indicated living with only one parental figure were coded as a "one-parent household."

Parent Financial Help

At Wave IV, respondents were asked about any financial help received from their mother or father figures. Specifically, they were asked how many times their mother or father figure gave them more than \$50 to cover their living expenses. Responses were coded so that observations indicating any financial help from either parental figure would be coded as having received financial help.

5. RESULTS

The subsample analyzed was 78% white, 10% black/African American, 10% Hispanic/Latinx, and 3% other (Asian/Pacific Islander or Native American). Twenty-eight percent of the sample reported IPV victimization in any form over the last 12 months, and 19% reported perpetration of any form of IPV in the same time frame. In Wave IV (collected in 2008), the average personal income for women in the sample was \$41,991 and ranged from \$0 to \$999,995. Figure 4 shows the distribution of incomes with the first and fourth quartile marked with red lines. Table 2 shows full descriptive statistics for the weighted sample.

Table 2: Descriptive Statistics, n=973

Variables	Mean	Std. Dev.	Observed Range
Wave IV Income	\$41,991.20	\$53,321.85	\$0-\$999,995
IPSV Perpetration (Wave III)	0.06	--	--
PIPV Perpetration (Wave III)	0.17	--	--
IPSV Victimization (Wave III)	0.09	--	--
PIPV Victimization (Wave III)	0.26	--	--
IPV Victimization (any form; Wave III)	0.28	--	--
IPV Perpetration (any form; Wave III)	0.19	--	--
White, not Hispanic	0.78	--	--
Black	0.10	--	--
Hispanic	0.10	--	--
Other Race	0.03	--	--
High School Education (Wave III)	0.60	--	--
College Degree (Wave III)	0.31	--	--
Parent Education	5.72	1.88	0-9
Childhood Neglect (Wave III)	0.11	--	--
Childhood Sexual Abuse (Wave III)	0.04	--	--
Childhood Physical Abuse (Wave III)	0.28	--	--
Two Parent Household (Wave III)	0.71	--	--
Age (Wave III)	21.45	1.54	18-28
Parent Financial Help	0.40	--	--
Wave III Income	\$14,534.99	\$13,965.85	\$0-\$230,000

Figure 4: Histogram Of Add Health Sample Wave IV Income With Upper And Lower Quartiles Marked As Reference

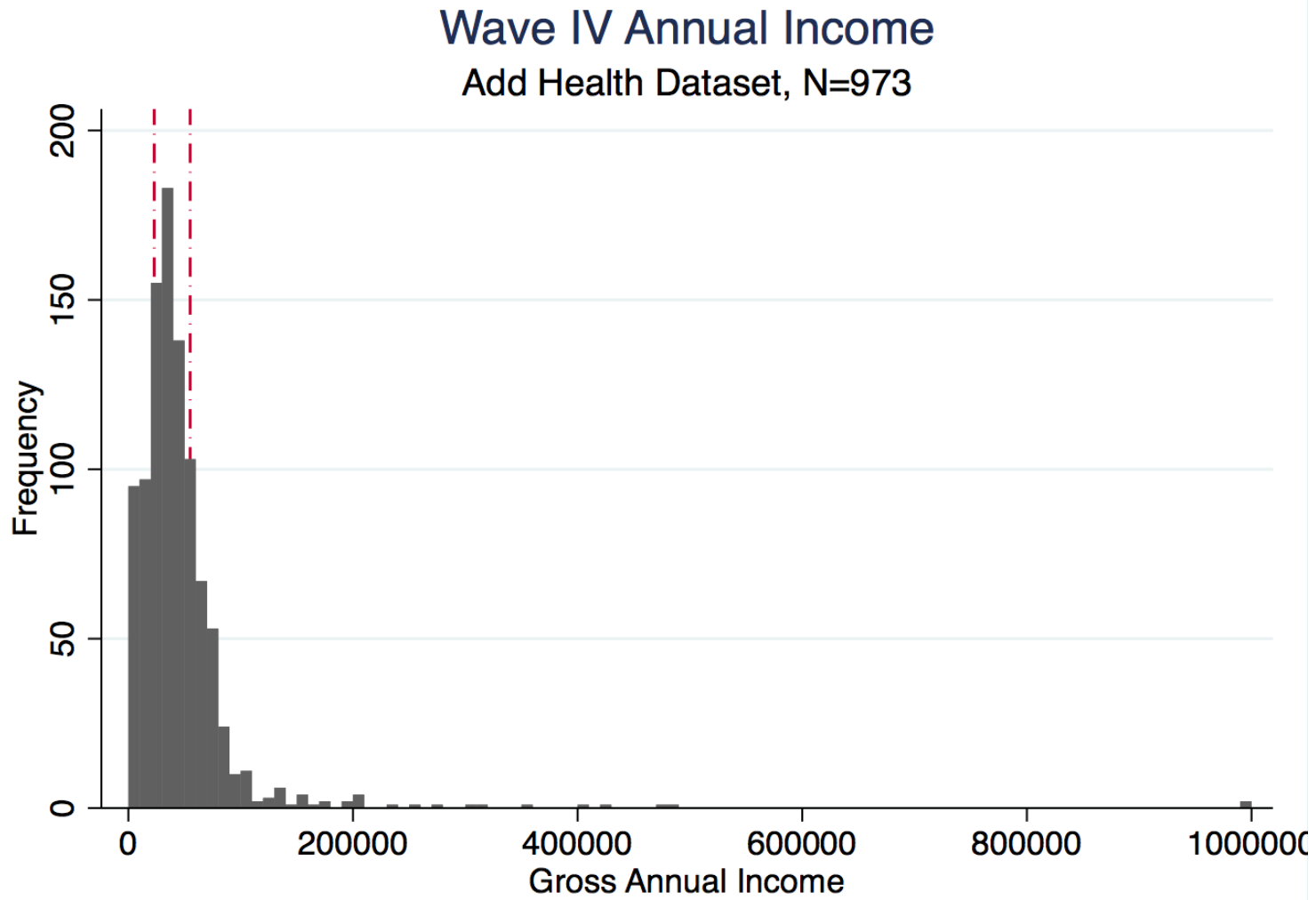


Table 3: Survey Adjusted Multinomial Logistic Regression With PIPV And IPSV, Income In Quartiles, n = 777

Reference Category: Middle 50% - Reported as B / (SB)

INDEPENDENT VARIABLES	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
<i>IPV at Wave III</i>														
IPSV Victimization	0.67**	0.11	0.50	0.31					0.45	0.29	0.52	0.36	0.41	0.27
	(0.32)	(0.38)	(0.36)	(0.44)					(0.40)	(0.46)	(0.40)	(0.49)	(0.40)	(0.47)
IPSV Perpetration			0.35	-0.54					0.28	-0.52	0.35	-0.53	0.41	-0.52
			(0.38)	(0.56)					(0.41)	(0.55)	(0.44)	(0.62)	(0.46)	(0.59)
PIPV Victimization					0.14	0.08	-0.23	0.16	-0.31	0.15	-0.57	0.16	-0.52	0.26
					(0.23)	(0.25)	(0.32)	(0.32)	(0.32)	(0.33)	(0.35)	(0.33)	(0.36)	(0.32)
PIPV Perpetration							0.63*	-0.17	0.50	-0.15	0.29	0.05	0.29	-0.03
							(0.37)	(0.40)	(0.40)	(0.39)	(0.42)	(0.38)	(0.42)	(0.38)
<i>Race_a</i>														
Black											0.56	-0.39	0.49	-0.21
											(0.34)	(0.43)	(0.37)	(0.45)
Hispanic											-0.29	0.10	-0.51	0.11
											(0.42)	(0.33)	(0.42)	(0.35)
Other Race											1.34***	0.41	0.98**	0.48
											(0.48)	(0.63)	(0.47)	(0.66)
Parent Education											-0.05	0.10*	-0.07	0.10*
											(0.05)	(0.06)	(0.06)	(0.06)
Age											-0.00	0.06	0.02	0.06
											(0.07)	(0.06)	(0.07)	(0.06)
High School Education											-0.82**	0.44	-0.81**	0.32

College Degree										(0.35)	(0.67)	(0.39)	(0.65)	
										-1.50***	1.13	-1.27***	0.96	
										(0.44)	(0.69)	(0.48)	(0.71)	
Wave III Income										-0.00***	0.00***	-0.00***	0.00***	
										(0.00)	(0.00)	(0.00)	(0.00)	
<i>Childhood Exposure to:</i>														
Neglect												0.90**	-0.06	
												(0.36)	(0.41)	
Sexual Abuse												-0.44	1.03	
												(0.65)	(0.63)	
Physical Abuse												0.00	-0.10	
												(0.27)	(0.26)	
Two Parent Household												-0.01	0.32	
												(0.27)	(0.25)	
Parent Financial Help												0.55	-0.71***	
												(0.53)	(0.76)	
Constant	-	-	-0.64***	-	-	-	-	-	-	1.15	-3.89**	0.13	-3.89**	
	0.63***	0.82***	(0.11)	0.81***	0.60***	0.83***	0.62***	0.83***	0.64***	0.83***	(1.48)	(1.54)	(1.54)	(1.77)
	(0.11)	(0.11)	(0.11)	(0.11)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(1.48)	(1.54)	(1.54)	(1.77)
Model Adjusted Wald Statistic	2.24		1.80		0.17		1.35		1.74*		3.81***		4.54***	
	F (2,129)		F (4, 127)		F (2, 129)		F (4, 127)		F (8, 123)		F (24, 107)		F (34, 97)	

^A Reference category for race is White

Standard errors in parentheses

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

Table 4: Survey Adjusted Multinomial Logistic Regression With All IPV And Income, n = 777

Reference Category: Middle 50% - Reported as B / (SB)

INDEPENDENT VARIABLES	Model 1		Model 2		Model 3		Model 4	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
<i>Any IPV at Wave III</i>								
Victimization	0.16 (0.23)	0.05 (0.24)	-0.11 (0.31)	0.17 (0.32)	-0.35 (0.34)	0.20 (0.31)	-0.36 (0.34)	0.23 (0.30)
Perpetration			0.47 (0.33)	-0.23 (0.38)	0.29 (0.35)	-0.06 (0.35)	0.33 (0.38)	-0.10 (0.35)
<i>Race_a</i>								
Black					0.56* (0.32)	-0.38 (0.42)	0.49 (0.36)	-0.19 (0.43)
Hispanic					-0.29 (0.41)	0.09 (0.33)	-0.52 (0.41)	0.10 (0.36)
Other Race					1.27** (0.49)	0.41 (0.63)	0.92* (0.48)	0.51 (0.66)
Parent Education					-0.06 (0.05)	0.10 (0.06)	-0.08 (0.06)	0.10 (0.06)
Age					-0.01 (0.07)	0.05 (0.06)	0.02 (0.07)	0.06 (0.06)
High School Education					-0.79** (0.34)	0.46 (0.67)	-0.79** (0.37)	0.32 (0.68)
College Degree					- 1.46** * (0.43)	1.16 (0.70)	- 1.23** * (0.47)	0.96 (0.71)
Wave III Income					- 0.00** * (0.00)	0.00** * (0.00)	- 0.00** * (0.00)	0.00** * (0.00)
<i>Childhood Exposure to:</i>								
Neglect							0.95** (0.36)	-0.06 (0.41)
Sexual Abuse							-0.30 (0.63)	1.00 (0.63)
Physical Abuse							0.03	-0.09

							(0.28)	(0.27)
Two Parent Household							0.58	0.51
							(0.50)	(0.72)
Parent Financial Help							1.07**	-
							*	0.70**
							(0.23)	(0.25)
Constant	-	-	-	-	1.29	-	-0.42	-3.96**
	0.61**	0.83**	0.63**	0.82**		3.76**		
	*	*	*	*				
	(0.13)	(0.12)	(0.12)	(0.12)	(1.43)	(1.54)	(1.55)	(1.77)
Model Adjusted Wald Statistic		0.25		1.29		4.12***		5.02***
		F (2,129)		F (4, 127)		F (20,111)		F (30, 101)

^A Reference category for race is White

Standard errors in parentheses

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

Table 5. Survey Adjusted Predicted Probabilities For Participants Who Did And Did Not Report Experiences Of IPSV, n=777

Income Level:	Reported IPSV	Did Not Report IPSV
Lower 25%	33.38% *** (0.06)	27.69%*** (0.02)
Middle 50%	42.36%*** (0.08)	50.45%*** (0.02)
Upper 25%	24.26%*** (0.07)	21.86%*** (0.02)

Standard errors in parentheses

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

Note: Predicted probabilities generated from Table 3, Model 7

Table 3 and Table 4 show regression results from the survey-adjusted multinomial logistic analyses as coefficients. Table 4 shows the regression results from the models where both physical and sexual IPV are combined into one variable. As shown in Table 4, neither IPV victimization nor perpetration have a significant impact on the log odds of being in the upper or lower quartile of income compared to the middle 50%. However, in Table 3 where physical and sexual forms of IPV are separated, there are significant effects of sexual violence victimization while there are no effects for physical violence. Experiencing sexual violence victimization increases the low odds of being in the lower quartile of incomes compared to the middle 50% controlling for Wave III income. This finding supports Hypothesis 2, which predicted that the effects on income unique to intimate partner sexual violence are masked when sexual and physical violence are combined. Once control variables are added, there is no longer significance. Though the coefficient estimates lose significance in the fully specified model, they are in the hypothesized direction, supporting Hypothesis 1.

In order to give a more intuitive understanding of the information from my regression tables, Table 4 shows the predicted probabilities for people who did and did not report experiences of intimate partner sexual violence generated from the fully specified model that splits IPSV and PIPV (Table 3, Model 7). Similar to what is shown in Table 3, people who reported IPSV victimization were more likely to be in the lower quartile compared to those who did not. Interestingly, those who did not report IPSV victimization were also less likely to be in the upper quartile.

Table 6: Survey Adjusted Multinomial Logistic Regression With PIPV Only, IPSV Only, and PIPV + IPSV, Income In Quartiles, n = 777, Reported as B / (SB)

Reference Category: Middle 50% - Reported as B / (SB)

INDEPENDENT VARIABLES	<u>Model 4</u>		<u>Model 5</u>		<u>Model 6</u>		<u>Model 7</u>	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
<i>IPV at Wave III</i>								
IPSV Only Victimization	0.32 (0.53)	-0.29 (0.73)	0.12 (0.62)	-0.07 (0.76)	-0.08 (0.63)	-0.10 (0.80)	-0.22 (0.55)	-0.25 (0.70)
PIPV Only Victimization	-0.08 (0.30)	0.02 (0.29)	-0.35 (0.34)	0.12 (0.34)	-0.66* (0.37)	0.13 (0.34)	-0.60 (0.38)	0.22 (0.34)
IPSV & PIPV Victimization	0.77** (0.38)	0.25 (0.43)	0.24 (0.57)	0.55 (0.56)	0.13 (0.59)	0.64 (0.55)	0.07 (0.56)	0.70 (0.55)
IPSV Perpetration			0.30 (0.42)	-0.49 (0.55)	0.39 (0.45)	-0.49 (0.62)	0.47 (0.48)	-0.46 (0.59)
PIPV Perpetration			0.48 (0.41)	-0.17 (0.39)	0.25 (0.42)	0.02 (0.38)	0.26 (0.42)	-0.07 (0.38)
<i>Race_a</i>								
Black					0.57 (0.35)	-0.38 (0.44)	0.46 (0.38)	-0.21 (0.46)
Hispanic					-0.29 (0.41)	0.10 (0.33)	-0.50 (0.42)	0.13 (0.36)
Other Race					1.34*** (0.48)	0.40 (0.62)	0.98** (0.46)	0.48 (0.65)
Parent Education					-0.05 (0.05)	0.10* (0.06)	-0.07 (0.05)	0.10* (0.06)

Age					-0.00	0.06	0.01	0.06
					(0.07)	(0.06)	(0.07)	(0.06)
High School Education					-0.86**	0.43	-0.84**	0.32
					(0.35)	(0.67)	(0.38)	(0.65)
College Degree					-1.50***	1.12	-1.31***	0.95
					(0.44)	(0.69)	(0.48)	(0.69)
Wave III Income					-0.00***	0.00***	-0.00***	0.00***
					(0.00)	(0.00)	(0.00)	(0.00)
<i>Childhood Exposure to:</i>								
Neglect							0.90**	-0.08
							(0.36)	(0.41)
Sexual Abuse							-0.56	1.07*
							(0.66)	(0.63)
Physical Abuse							0.00	-0.11
							(0.27)	(0.26)
Two Parent Household							0.05	0.32
							(0.26)	(0.25)
Parent Financial Help							1.08***	-0.71**
							(0.22)	(0.24)
Constant	-0.61***	-0.83***	-0.63***	-0.82***	1.28	-3.84**	0.26	-3.83**
	(0.13)	(0.12)	(0.12)	(0.12)	(1.47)	(1.54)	(1.54)	(1.57)

Model Adjusted Wald Statistic	0.80 F (6, 125)	1.40 F (10, 121)	3.56*** F (26, 105)	4.34*** F (36, 95)
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^A Reference category for race is White

Standard errors in parentheses

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

I also decided to run the same analyses separating those who only experienced physical violence, those who only experienced sexual violence, and those who experienced both. Table 6 shows the results of these analyses. Though sample sizes were small (only 24 women reported sexual violence without physical violence), this shows an additive ‘double whammy’ effect of physical and sexual violence (Hughes et al. 1989). However, I do use caution in separating women who have experienced sexual violence by whether or not they also experienced physical violence. This may seem counterintuitive given that I am advocating for looking at the separated effects of physical and sexual violence, but I believe it is an important distinction. Given that the Add Health questions on IPSV do not specify that the sexual acts occur with force (only that ‘you didn’t want to’), one can infer that in at least some cases, physical violence that occurred *during* an incident of sexual victimization could be reported by respondents as a separate instance of physical victimization. (Questions do not include verbiage stating that incidents of violence must be independent of each other.) For example, a woman who is slapped by her partner in order to force sex acts when she did not want them would respond that she experienced physical *and* sexual violence. Theoretically, the inclusion of physical violence should not disqualify a person from the sexual violence category. So, while it is important to consider that women who experience both physical and sexual violence may be most in line with Johnson’s (1995) Patriarchal Terrorism typology, we must be cautious in concluding the sexual coercion must include physical violence to be harmful.

6. DISCUSSION/CONCLUSION

All of the results discussed here use a measure of victimization after adolescence. This provides a more qualified explanation of Macmillan's (2000) assertion that violent victimization occurring at later stages in the life course does not have a large effect on socioeconomic status. It also supports that there are in fact differential effects for different kinds of violence. Although the findings on intimate partner sexual violence did not hold significance with the addition of control variables, I do think it is important to contextualize that this is a relatively small sample (particularly compared to the full restricted-use Add Health dataset).

In her work on agency, structure, and desistance, Peggy Giordano and colleagues (2002) argue that there is an advantage/disadvantage spectrum on which those at either end are less affected by hooks for change. Just as Macmillan (2000) equates violent victimization to turning points for desistance from crime, we can think of episodes of victimizations as possible hooks for change (although typically in a negative direction). Giordano notes that those at either end of this spectrum are less likely to see substantive changes from hooks or turning points than those in the middle due to their position in the structure regardless of agency or willingness to change. For example, she notes that people who experience extreme structural disadvantage struggle to achieve goals such as marriage or employment regardless of the 'hooks' they are given. Macmillan (2001) also notes that the effects of violent victimization are not uniform for people across the socioeconomic spectrum. In future analyses, it would be important to use a more intersectional analysis that focuses on the middle-ranges of income rather than the top and bottom quartiles. It's possible that those with a very high or very low income already have so much cumulative advantage (or

disadvantage) that even violent victimization like IPSV does not have a great effect on their income, explaining the lack of significance. In order to further test my claims, I believe that a more intersectional analysis is needed; one that understands that women of different SES don't necessarily have the same experiences or consequences when faced with violence. The Wave IV measure for income happened in 2008, at the height of the Great Recession (Hagan and Foster 2015). Applying Elder's life-course principle of historical time and place helps to contextualize this sample and reveal that it makes for a more conservative estimate of lower income (Elder 1998). Research shows that during the Great Recession, less-advantaged groups showed a higher decrease in percentage of income and wealth (Pfeffer et al. 2013). Increased inequality between the highest and lowest quartiles of the population's income lends credence to the idea that comparing the highest and lowest quartiles to the middle is a conservative estimate and we might expect to find greater effects of violence on income when concentrating on the middle of the sample.

Originally, this study set out to examine if there were long term effects of intimate partner violence and whether those effects were different for different types of violence. Analyses found that there were differential effects for physical and sexual violence, however they did not maintain significance with the addition of control variables. When accounting for physical and sexual violence separately, women who experienced sexual violence were more likely to be in the lower quartile by income than the middle 50%. This finding may be more thoroughly understood when applied to the restricted portion of the Add Health database. As discussed above, with a larger sample size, I would hopefully have enough cases to be able to focus on the middle of the sample where the effect of victimization could

be more easily disentangled from the effects accumulated advantage and disadvantage (Giordano et al. 2002).

Though it is only the beginning of a much larger research agenda, this study serves an important purpose in calling attention to the differential effects of physical and sexual violence. It also provides the grounds for continued and deeper analysis on the differences between different kinds of violence as well as the importance of taking an intersectional lens to account for more variations in the experiences of intimate partner violence than merely controlling for gender would illuminate.

7. LIMITATIONS AND FUTURE RESEARCH

While there are several limitations for this study, I do believe they can be remedied in future work. First, this study only uses the public-use data from Add Health, however in further analyses I do plan to use the restricted-use data. Second, missing data was dealt with rather inelegantly, by dropping cases. For future work, I will use multiple imputation in order to deal with missing variables. Lastly, it is difficult with survey data to distinguish the different types of IPV identified by Johnson (1995). I believe that parsing out physical and sexual violence is a good first step, but in the future I would like to explore the differences further by including interaction effects to distinguish victims who reported victimization and perpetration from those who only report one or the other. Additionally, in later waves of Add Health there are questions that distinguish between physically coerced and otherwise coerced intimate partner sexual violence.

As discussed above, the way that income was examined could be problematic in this study. With the larger private use dataset, I would be able to take a more nuanced look at a possible interaction between accumulated advantage/disadvantage and the effects of violence victimization as suggested by Giordano (2002). This would allow for a more intersectional approach that acknowledges how gender and class can intersect and possibly accentuate or mitigate the effects of violence.

In future iterations of this project I am also interested in looking at gendered and racialized experiences in the way that victimization affects income. However, I do feel that the public use portion of Add Health is inadequate to do more analyses without reverting to the white/non-white binary due to sample size. With only 9 Native American respondents and 31

Asian/Pacific Islanders I don't think it would be appropriate to extrapolate findings from this data.

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APPENDIX A

VARIABLE DESCRIPTIONS

Variables Description		
<i>Intimate Partner Violence Victimization Measures</i>		
IPV Victimization (all forms)	Wave III	This is a dummy variable indicating whether or not a person reported any kind of intimate partner violence (physical or sexual) victimization in the last 12 months.
IPSV Victimization -12 month frequency of exposure	Wave III	Respondents were asked "How often in the past year has a partner insisted on or made you have sexual relations with [him] when you didn't want to?" Responses were coded to create an interval scale of the amount of IPSV Victimization experienced from their partner in the last year ranging from 0 (none) to 6 (more than 20 times in the last year). Responses indicating "none in the last year, but before that" were recoded to 0. For respondents who reported more than one relationship, the max was used. This variable was coded as a dummy variable indicating whether or not a person had experienced IPSV Victimization or not in the last year.
PIPV Victimization (Year) - 12 month frequency of exposure	Wave III	Respondents were asked a series of questions from the Conflicts Tactics Scale (How often has [partner] slapped, hit, or kicked you? How often has [partner] threatened you with violence, pushed or shoved you, or thrown something at you? How often has [partner] given you an injury such as a sprain, bruise, or cut because of a fight?) Any positive response from the last year (indicating experiences of violence) to any of the 3 questions asked, for any of the relationships reported was coded as an experience of PIPV victimization. Responses were coded to create an interval scale of the amount of PIPV Victimization experienced from their partner in the last year ranging from 0 (none) to 6 (more than 20 times in the last year). Responses indicating "none in the last year, but before that" were recoded to 0. For respondents who reported more than one relationship, the max was used. This variable was coded as a dummy variable indicating whether or not a person had experienced IPSV Victimization or not in the last year.
<i>Intimate Partner Violence Perpetration Measures</i>		
IPSV Perpetration (12 months)	Wave III	Respondents were asked "How often have you insisted on or made [partner] have sexual relations with you when they didn't want to?" Responses were coded to a dummy variable indicating whether or not a person indicated they had perpetrated IPSV against any partners in the last 12 months

PIPV Perpetration (12 months)	Wave III	Respondents were asked a series of questions from the Conflicts Tactics Scale about their partner (How often have you slapped, hit, or kicked them? How often have you threatened you with violence, pushed or shoved you, or thrown something at them? How often have you given them an injury such as a sprain, bruise, or cut because of a fight?) Any positive response (indicating violence) from the last 12 months to any of the 3 questions asked, for any of the relationships reported was coded as an experience of PIPV perpetration.
<i>Income Variables</i>		
Focal dependent: Later Income	Wave IV	What is your best guess of your personal income before taxes? This variable was also recoded to indicate quartiles. The highest and lowest quartiles were compared in these analyses, with the middle 50% of the sample as a reference group.
Control: Early Income	Wave III	What is your best guess of your personal income before taxes? This question was kept as a continuous variable.
<i>Demographic Variables</i>		
Race	Wave III	
--Hispanic		Add Heath uses the separate question format for race/ethnicity. In order to separate a Hispanic group, respondents were coded Hispanic if they indicated they were of Hispanic or Latino origin in Wave III regardless of how they answered other race questions
--Black		For all other races, respondents who indicated only one race (and did not indicate Hispanic or Latino origin) were identified as that one race. Those who indicated more than one race were coded as the race they chose when asked "Which one category best describes your racial background?" Other race includes Asian, Pacific Islander, and Native American.
--White		
--Other Race		
Age	Wave III	This variable is calculated by Add Health using the respondents birthdate given in Wave I to find their age at the time of their Wave III interview.
Respondent Education	Wave IV	Respondents were asked "What is the highest education you've received to date?" Respondents were then categorized into 3 groups based on their highest degree attained: high school and college with no degree as a reference category.

Parent Financial help	Wave IV	Respondents were asked "how often has your (mother/father figure) paid your living expenses or given you \$50 or more to pay living expenses during the past 12 months?" Responses for the mother and father figure were combined to create a dummy variable indicating whether or not someone has received financial help with living expenses from their mother <i>or</i> father figure during the last 12 months.
Parent Education	Wave I	This variable is created by combining 3 different questions about parent education. It is meant as a proxy for parental SES. 1) the parent who was given the Parent survey was asked, "How far did you go in school?" 2) students were asked about their residential mother, "How far in school did she go?" 3) respondents were asked about their residential father, "How far in school did he go?" After recoding questions responses for question 2 and 3 "went to school but R doesn't know how far," "R doesn't know if (s)he went to school," "refused," "don't know," and "legitimate skip [no mom/dad]" to missing data the three questions were averaged. This variable ranges from 0 (no school) to 9 (professional training beyond a four-year college or university).
<i>Other Controls</i>		
Household Structure	Wave I	Respondents were asked to list all people who were living in their household. After tallying up how many parents (including biological parents, stepparents, adopted parents, and other parents) respondents were divided into 3 groups: those with 2 parents, those with one parent, and those with no parents in their household as a reference.
Childhood Abuse	Wave III	Respondents were asked the following questions about their home life before beginning the sixth grade. Questions were asked on a frequency scale but recoded to produce dummy variable indicating any abuse.
--Neglect		"How often had your parents or other adult care-givers not taken care of your basic needs, such as keeping you clean or providing food or clothing?"
--Sexual Abuse		How often had your parents or other adult care-givers touched you in a sexual way, forced you to touch him or her in a sexual way, or forced you to have sexual relations?"
--Physical Abuse		How often had your parents or other adult care-givers slapped, hit, or kicked you?"

APPENDIX B

Correlation Chart of All Variables, N = 973

Variables	Income W4	Income W3	Race	Education	Parent Ed.	Child Neglect	Child Sex Abuse	Child Physical Abuse
Income Wave IV	1							
Income Wave III	0.22*	1						
Race	0.08*	0.07*	1					
Education	0.28*	-0.12*	0.08*	1				
Parent Education	0.17*	-0.08*	0.13*	0.41*	1			
Childhood Neglect	-0.15*	-0.05	-0.03	-0.14*	-0.10*	1		
Childhood Sexual Abuse	-0.04*	0.00	-0.09*	-0.05	0.02	0.45*	1	
Childhood Physical Abuse	-0.03	0.01	-0.04	-0.03	-0.02	0.25*	0.29*	1
Two Parent	-0.11*	-0.02	0.15*	0.20*	0.09*	-0.04	0.0	-0.01
Age	0.12*	0.24*	0.00	0.00	-0.05	-0.06	0.02	0.05
Parent Financial Help	-0.31*	-0.09*	-0.16*	-0.13*	-0.01	0.04	0.07*	0.02
IPSV Perpetration	-0.09*	-0.01	-0.05	-0.09*	-0.07*	0.11*	0.15*	0.11*
PIPV Perpetration	-0.12*	-0.01	-0.11*	-0.17*	-0.12*	0.09*	0.15*	0.10*
IPSV Victimization	-0.07*	-0.05	-0.07*	-0.06	-0.05	0.13*	0.13*	0.09*
PIPV Victimization	-0.06	0.04	-0.07	-0.17*	-0.08*	0.09*	0.08*	0.09*
IPV Victimization	-0.07*	0.04	-0.07*	-0.17*	-0.08*	0.09*	0.08*	0.10*
IPV Perpetration	-0.11*	-0.01	-0.10*	-0.17*	-0.12*	0.08*	0.13*	0.09*

* p<0.05

Appendix B (cont.): Correlation Chart of All Variables, N = 973

Variables	Two Parent	Age	Help	IPSV Perp.	PIPV Perp.	IPSV Vic.	PIPV Vic.	IPV Vic.	IPV Perp.
Two Parent	1								
Age	0.02	1							
Parent Financial Help	-0.10*	-0.10*	1						
IPSV Perpetration	-0.06	0.05	0.03	1					
PIPV Perpetration	-0.11*	0.04	0.08*	0.28*	1				
IPSV Victimization	-0.04	-0.04	0.04	0.47*	0.29*	1			
PIPV Victimization	-0.07*	0.02	0.05	0.23*	0.59*	0.33*	1		
IPV Victimization	-0.06	0.00	0.05	0.31*	0.56*	0.50*	0.94*	1	
IPV Perpetration	-0.12*	0.05	0.06*	0.52*	0.91*	0.36*	0.55*	0.57*	1

* p<0.05