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DIVERGENT PATHWAYS AND DIVERSE LIVES: THE EFFECT OF PHYSICAL DISABILITY ON THE CRIMINAL VICTIMIZATION OF YOUNG ADULTS

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF SOCIOLOGY

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To Bradlin, Gizmo, Isis, Inara, and Mildred Bones. Thank you.

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ABSTRACT

Official statistics show that physical disability is strongly associated with an increased risk of experiencing violent and sexual victimization, but researchers know little about why this occurs. Do offenders target physical disability itself, or is impairment so strongly linked to other characteristics related to criminal victimization, that disability increases victimization indirectly? This dissertation examines how physical disability, demographic traits, home and family characteristics, lifecourse transitions, risky behaviors, and neighborhoods affect both violent and sexual victimization. Data from the National Longitudinal Study of Adolescent Health (Add Health), Wave IV, was used to examine how physical disability creates pathways to victimization. I used mixed effect logistic regression, t-tests, and multi-group analysis with binary logistic regression to describe how disability itself acts as a pathway to victimization, and how the effects of common predictors behave differently for the disabled. Results indicate that a visible signifier of impairment directly increases the risk of sexual assault by a non-parent or guardian, but does not directly affect violent victimization. Lifecourse transitions such as increased education, owning a home, and marriage all decrease the risk of violent victimization for the non-disabled, but either have no effect for the disabled, or increase their risk. A history of criminal offending and drug use increase the risk of violence for the non-disabled, but have no effect on the disabled. Marriage and residential stability decreased the risk of sexual assault for the non-disabled, but not the disabled. Risk factors played a significant role in predicting sexual victimization. The effect of different forms of abuse varied by disability status, but in all cases where a factor had a significant effect, it was greater for the non-disabled.

CHAPTER 1 – INTRODUCTION TO AREAS OF INQUIRY

Criminal victimization is a serious, and sadly too common, problem for disabled persons. Harrell (2014) finds that the disabled are nearly three and a half times as likely to experience violent victimization, four times as likely to be sexually victimized, over four times as likely to be robbed, nearly three times as likely to experience aggravated assault, and twice as likely to suffer a simple assault as someone without an impairment. With the exception of simple assault, the prevalence of victimization of the disabled has increased steadily since 2009, while crimes against non-disabled persons have decreased or remained relatively stable (Harrell 2014). Considering that the disabled are one of the largest minorities in America, comprising approximately 19% of the population, these figures represent a real problem for a community that already experiences a number of hardships.

Despite the consistency of the link between disability and victimization, the mechanisms driving this relationship remain unclear. Official victimization statistics are often limited in the number of confounding variables they consider when reporting the experiences of the disabled; only basic demographics are considered in an attempt to describe victimization, not explain why it occurs. The lack of knowledge surrounding disability and victimization raises several research questions. In what ways are the disabled disadvantaged, compared to the non-disabled? How does physical disability affect the risk of violent and sexual victimization? Does disability directly lead to victimization, or does the strong association between disadvantage and impairment mean that the effects of disability operate indirectly? What role do neighborhoods play in the victimization of the disabled? Are the predictors of victimization the same for

disabled and non-disabled persons, or does physical impairment have a moderating effect on factors such as poverty and risky behaviors that creates very different pathways to victimization by disability status?

This dissertation addresses all of the questions posed above, and posits three possible explanations as to why the disabled have such high rates of victimization. First, disability could act as a direct pathway to victimization, with disability status itself targeted by offenders, leading to high rates of violent and sexual victimization. Second, disability may not constitute a distinct pathway, but rather may be correlated with a number of contextual factors (poverty, isolation, drug use, etc.) that indirectly lead to higher rates of victimization for the disabled. This would result in a mediation effect, whereby individual characteristics fully account for the effect of disability on victimization. Third, because disability is associated with disadvantaged contexts at the individual level, this may mean that persons with an impairment live in more dangerous, high crime neighborhoods, making the relationship between disability and victimization a spurious byproduct of neighborhood ecology. The remainder of this introductory chapter is dedicated to briefly discussing the theoretical basis underlying these three possible explanations for the relationship between disability and victimization, and providing a brief outline of the dissertation.

DISABILITY AS A DIRECT PATHWAY TO VICTIMIZATION

As outlined above, based solely on official statistics, there is strong evidence that disability itself constitutes a direct pathway to victimization. Or, to put it more plainly, impairment has a direct effect on the risk of being a victim of crime. This explanation has a lot of face validity, given that limitations in one's ability to avoid,

fight, or flee a crime can be seriously hampered by physiological impairments, particularly if they are physical in nature. Accordingly, this explanation for why the disabled are at such a high risk for victimization comes down to offenders making a rational choice about who to target based on their intended victim's characteristics. The direct pathway to victimization associated with disability is an expression of Finkelhor and Asdigian's (1996) work on a target characteristics approach to crime. The authors state that offenders utilize bounded rationality when selecting a target, honing in on specific traits which broadcast that a crime can be easily carried out either because the target is unlikely to offer resistance or the cost of offending against a member of a certain population carries with it fewer costs. This is similar to Grattet and Jenness' (2001) view of "actuarial crimes" against minorities or Shultz's (1998) discriminatory selection model of crime victimization. In either case, the authors contend that stereotypes affect patterns of victimization because offenders are socialized in systems that promulgate beliefs about target attractiveness. While Grattet and Jenness explain this idea by using the commonly held belief that Jews are wealthy, leading offenders to perceive a greater payoff for robbing this population compared to gentiles, I contend that a direct pathway to victimization for the disabled begins with the assumption that prominent views of disability as a universal signifier of vulnerability tell offenders that the disabled offer little resistance.

Obviously, this approach rests on the assumption that motivated offenders can discern who is and who is not disabled. This dissertation focuses on the effects of physical disability, here defined as a self-identified limitation with daily activities, on both violent and sexual victimization. Additionally, I separate visible physical

disabilities, impairments that require the use of some readily identifiable signifier of handicap (such as a crutch or a cane), from invisible physical disabilities. Ambulatory disabilities are the most common form of disability, with 30.6 million persons over the age of 15 (12.6% of the population) suffering from some kind of upper or lower body limitation (Brault 2012). According to the Census, about half of the population with a mobility-related disability uses a wheelchair, walker, cane, or crutches, but this figure included persons over the age of 65 (who made up 9 million of the total). Those with ambulatory disabilities have a high rate of victimization (39.1 per 1,000), second only to the rates for those with cognitive disabilities (Harrell 2014). This approach is what I refer to as the direct pathway to victimization; physical disability constitutes a recognizable sign of impairment that attracts motivated offenders.

INDIRECT PATHWAYS TO VICTIMIZATION

The direct pathway to victimization explanation focuses on the effect of impairment on the risk of victimization, but victimization is not the only negative life event associated with disability. For decades, disabilities scholars have contended that disability has a social dimension that extends well beyond physiological limitations, pushing disabled persons to the periphery of society (Oliver 1992, 1996; Shakespeare 2000; Kurtz 1981; Barton and Oliver 1997; Goodley 2001). These authors contend that disabled persons are routinely excluded from the larger social society, and that preconceived notions about disability are actually far more damaging and limiting than the physiological effects. Kurtz (1981) was one of the first to discuss this at length, explaining that when we view impairment as a biological occurrence, this "essentializes" disability, making it a master status through which we interpret all

actions by the disabled. For example, if we encounter a physically disabled man in a particularly bad mood, we assume that his disposition is a product of his impairment. We believe that impairment leads to pain, isolation, and social maladjustment. What we ignore when we do this is that this person is just that: a person. Oliver (1992, 1996) and Goodley (2001) carry this idea further to explain how a social model of disability is necessary to extend the effects of impairment beyond the medical, pointing out how most social institutions are not equipped to handle differing levels of ability, relegating many disabled persons to a life of poverty and isolation. This dissertation takes a social approach to disability by considering how disability status can act as a sort of gateway to a number of negative life outcomes, many of which increase the odds of violent and sexual victimization.

Because the onset of a physical disability has adverse physiological effects, and because the loss of full physical functioning has many social and emotional effects, one of the largest costs of disability is the tendency to engage in self-medication and other risky behaviors (Turner et al. 2006; Wolf-Branigin 2007; Yu et al. 2008). Many crimes are preceded by risky behaviors, both on the part of the offender and the victim (Rapp-Paglicci and Woda 2000; Schreck et al. 2002; Smith and Ecob 2007). This is but one way disability can indirectly affect victimization; by creating a need to engage in behaviors which help ameliorate the effects of impairment, but which also increase the risk of victimization. While it is important to control for all aspects of the target that increase the risk of victimization, it is also important not to engage in victim blaming. No one can be said to cause their own abuse, and deviant activities (such as drug use or crime) are often a response to prior victimization and social marginalization (Biswas

and Vaughn 2011; Testa and Livingston 2009). To this end, it is important to point out that disabled adolescents also have an extremely high risk of caretaker abuse (Rand and Harrell 2009; Perreault 2009), another factor that often leads to self-medicating behaviors (Herrenkohl et al. 2013; Thornberry et al. 2010; White and Widom 2008). Risky behaviors, and the lifecourse events that tend to cause them, have a strong role in victimization, and are also included in this dissertation because they represent a series of indirect pathways that are strongly associated with both disability and victimization.

Risky behaviors are not the only negative outcomes associated with disability. Compared to those without a disability, persons with a disability are less likely to be married, have lower levels of education, lower incomes, and are more likely to be unemployed (Brault 2012, 2008). All of these factors are linked to higher risks of victimization. In many ways, this is the point that social models of disability speak to; that disability equates to disadvantage in virtually all aspects of life. When an entire segment of the population is relegated to the margins of economic and social life, this creates a type of cumulative disadvantage that has widespread ramifications, which may extend to the risk of victimization. To this end, in this dissertation I will explore how disabled and non-disabled populations differ in terms of their levels of disadvantage. These hardships could possibly mediate the effects of disability on crime, or could lead to moderating effects. If it is "normal" for disabled persons to have low levels of education, high rates of poverty, and a greater risk of substance misuse, then these factors which we commonly think of as increasing the risk of violent or sexual victimization may not actually have the same effect as in a population where these disadvantages are more rare.

The fact that the disabled experience disadvantage across multiple domains of daily life not only supports the idea that the relationship between disability and victimization may be the product of indirect selection for contexts/characteristics conducive to crime, but also suggests that disability may place individuals into physical environments that are inherently criminogenic.

DISABILITY, NEIGHBORHOODS, AND CRIME

For most of its history, criminology has focused on how individual traits and characteristics predict crime. Biological positivists and control theorists, despite having diametrically opposing views of the nature of both man and crime, both ultimately conclude that crime is dependent on individual traits. Even criminological theories that focus on how society affects the individual, such as subcultural, strain, and social bonds theories, still maintain this individual focus by delineating how social conditions are internalized, producing criminal behaviors in response to external forces. One of the few exceptions to this individualization of crime is Shaw and McKay's (1942) social disorganization theory. The authors focused on the continuity in crime rates associated with neighborhoods, and found that despite shifts in ethnic minority concentration over time, high levels of delinquency, unemployment, disorder, family disorganization, infant mortality, and mental disorder clustered in specific areas of Chicago. The fact that there was a strong relationship between geography and negative life outcomes, regardless of the racial/ethnic composition of the neighborhood, suggested that researchers should consider the possibility that neighborhoods themselves may have certain characteristics that increase or decrease criminal activity.

While individual-level theories of crime do inform our understanding of offenders and criminal events, neighborhood conditions have been shown to explain victimization in ways that individual-level traits cannot. Neighborhood effect studies have increased our knowledge of crime by identifying specific conditions that are correlated with high rates of crime and other social problems (Sampson et al. 2002). With the advent of multilevel modeling techniques, it is now possible to study individual outcomes while taking contextual variables into consideration. As a result, we now know that many individual-level correlates of crime behave very differently or lose significance when neighborhood variables are introduced into regression models. For example, low socioeconomic status has long been associated with crime, and is a primary component of criminological theories such as strain theory, differential association, differential opportunity, and even control theories. However, while Miethe and Meier (1994) find that low socioeconomic status predicts high levels of experiencing assault, this relationship is mediated by neighborhood conditions. Likewise, Bruce (2000) finds that race of offender is a much weaker predictor of delinquency than neighborhood or family measures of inequality and disadvantage. This dissertation aims to describe how neighborhood conditions affect the individual-level relationship between physical disability and criminal victimization.

Although disabled victims most often report that their victimization was caused by their impairment (Grattet and Jenness 2001; McMahon et al. 2004; Marge 2003; Perreault 2009), individual disability may play only a small role in criminal victimization once neighborhood characteristics are taken into account. Disability tends to be concentrated in specific locations due to factors such as high rates of poverty

among the disabled and a need to live close to medical services (Wolch and Philo 2000; Dear and Wolch 1987). Prior work, which is often limited to studies of the elderly, suggests that disabled men and women are concentrated in neighborhoods characterized by poverty, residential instability, and other indicators of disadvantage (Beard et al. 2009; Pruncho et al. 2012; Freedman et al. 2008). If the disabled are disproportionally likely to live in neighborhoods characterized by high rates of poverty and crime, then this would make impairment a more distal cause of victimization, as the neighborhood itself would be the proximate cause of crime.

SUMMARY OF PRESENT STUDY

This dissertation builds on prior studies by the author. I have previously examined how the intersection of gender, disability, and risk affects the likelihood of violent and sexual victimization for young adults (Bones 2013). Additionally, I have examined how disability concentration, at the Census block group level, affects assault with a deadly weapon rates in Washington, D.C. (Bones and Hope 2014). This dissertation unites both of these works to address how individual traits compare to neighborhood conditions when explaining victimization of the disabled. I also focus more on daily living contexts (number of roommates, number of friends, urban/rural setting, etc.) and transitions (education, marriage, home ownership, and childbirth) because these factors can have a great effect on routine activities and the risk of criminal victimization that accompany them (Cohen and Felson 1979; Felson and Boba 2010; Hindelang et al. 1978; Miethe and Meier 1994; Turanovic et al. 2014; Sampson and Laub 1993). I look at both violent victimization (assault and assault with a deadly weapon) and sexual victimization (forced or coerced sexual assault) in order to capture

how the nature of these two forms of crime can create different pathways and predictors of victimization, and how these predictors relate to physical disability.

This dissertation offers a unique approach to the issue of disability and victimization. I am unaware of any studies to date that consider how disability status, personal contexts, and neighborhoods affect victimization. I also examine both mediating and moderating effects associated with physical disability. Disability is strongly associated with a number of negative life events, many of which are also thought to increase the risk of criminal victimization. This could explain away the relationship between disability and crime, or because factors such as poverty and self-medication are so high in the disabled population, they may not behave the same way for persons with a functional limitation as they do for someone without any impairment. Similarly, because disability is thought to be an individual trait, few researchers have even considered the fact that impairment may lead to living in a very different neighborhood context, and none have considered how this can affect victimization. Studies of neighborhoods with high concentrations of disabled residents are often descriptive, and focus on elderly populations. Although disability prevalence is certainly something that increases with age, treating disability as a problem for the elderly not only ignores the issues of a sizable segment of the population, but it also obscures the relationship between disability and victimization. The risk of victimization peaks for all persons (disabled and not) between the ages of 16-24, and continues to decrease thereafter (Harrell 2014). The gap in victimization by disability status is actually lowest after the age of 65, which is when we typically think of physical

impairment becoming "normal." This study focuses on the experiences of persons age 25-34.

Although the age range of my sample does not include the peak in victimization, it was chosen for several reasons. First, practically, this age range was chosen because the data used to examine my research questions, the National Longitudinal Survey of Adolescent Health Wave IV, was the only available wave to include measures of sexual assault. Earlier versions of the data only had measures of caretaker victimization before the age of 18. Second, this age range includes major transitions in the lifecourse (Arnett 2000, 2004; Janus 2009). At this age, most young adults have competed their education, married, moved away from home, and are becoming established in their careers. In other words, this is when emerging adulthood becomes full adulthood. This means a change in context. Risky behaviors such as binge drinking, staying out all night, hooking up, and experimenting with drugs are no longer normal or expected. This has a major effect on victimization and means that risk factors may represent a pattern of activity instead of occasional, context-specific behavior. Because of the timing of these expected lifecourse transitions, studying this age group should also reveal what will likely become divergent paths in the lifecourse. At younger ages, being unmarried, not finishing college, or moving from home is normal, but as these transitions are delayed well into a person's 30s, then there is an increased likelihood that these transitions will never occur. This is important to consider because disabled persons tend to have lower levels of educational attainment, higher levels of unemployment, and are less likely to be married. In fact, persons with a physical impairment are more likely to be behind in transitions in young adulthood than their

non-disabled peers (Janus 2009). They also have higher levels of substance misuse. Therefore, because this study examines a point in time where transitions are expected to have occurred and "youthful" experimentation with substances is no long considered normal, the disadvantages associated with disability should show most clearly. Third, this period coincides with the downward curve of the first real peak in disability over the lifecourse (Brault 2012), which means that disability onset will be new for many young adults, and should exert a strong effect on their daily living conditions, neighborhood contexts, and risk factors for victimization.

CHAPTER OUTLINE

In Chapter 2, I expand on the ideas summarized above, looking into the theoretical explanations for the relationship between physical disability and crime. I pay special attention to how neighborhood conditions can increase the concentration of disability in geographical locations, and the various pathways to victimization associated with disability. Chapter 3 discusses the data and variables used to address the research questions outlined in this chapter. In Chapter 4 I examine how disabled and non-disabled persons differ in regard to the predictors of violent and sexual victimization in order to demonstrate the disadvantages associated with disability. Chapter 5 contains a multilevel model that includes individual measures of disability, individual contexts, and neighborhood variables to test if disability is a distinct pathway to victimization, or if it is mediated by any variables in the model. I explore possible moderating effects by splitting the sample into disabled and non-disabled participants in Chapter 6, in hopes of determining if there are significant differences in the pathways to

victimization by disability status. Chapter 7 contains the discussion of all models, policy recommendations, and conclusions reached from the analyses.

CHAPTER 2 – CAUSES OF VICTIMIZATION OF THE DISABLED

In this chapter, I expand on the three hypotheses stated in the introduction. I explore the literature on how disability itself can be a pathway to victimization based on the individual trait of impairment. I then shift to an examination of the disadvantaged personal contexts that are heavily correlated with both disability and victimization. I also discuss the mechanisms behind neighborhood crime, and how this relates to the geographic concentration of disability in low income, high crime neighborhoods.

DISABLED INDIVIDUALS AND CRIMINAL VICIMIZATION

Disability is one of the strongest predictors of criminal victimization (Harrell 2012; Rand and Harrell 2009; Sobsey and Doe 1991; Perrault 2009; Temkin 1994). Adjusted for age, the disabled are twice as likely to experience any kind of victimization as the non-disabled (Harrell 2014). In terms of specific crimes, Perreault (2009) finds that the disabled are twice as likely to experience any violent crime, 2.5 times as likely to be assaulted, and twice as likely to experience a sexual assault. More recent official data also support the contention that the disabled are disproportionately likely to experience victimization. Harrell (2014) finds that the disabled are nearly three and a half times as likely to experience violent victimization, four times as likely to be sexually victimized, over four times as likely to be robbed, nearly three times as likely to experience aggravated assault, and twice as likely to suffer a simple assault as someone without an impairment. These patterns of victimization are often explained as resulting from disability status itself; that disability creates criminal opportunities.

The belief that an individual with a disability is less able to fight or flee is the most cited reason why disabled men and women are victimized at a high rate (Marge

2003; Perreault 2009; Temkin 1994; Grattet and Jenness 2001; Tyiska 2001; Petersilia 2000). According to routine activities theory, the three components required for the commission of a crime (a motivated offender, an attractive target, and a lack of guardianship) are subjectively determined by the offender (Cohen and Felson 1979; Felson and Boba 2010). While we can predict what constitutes an attractive target (such as cash) or a lack of guardianship (an unwatched purse), ultimately the decision to commit the crime rests with the offender. The problem with focusing on opportunity to offend/be victimized is that this approach fails to take into account the fact that crime is not equally likely to be experienced by all members of society; certain groups are disproportionately at risk to be victims of crime, and specific scenarios/locations have higher rates of crime than others. This indicates that offenders must use some kind of criteria to decide who/what constitutes an attractive target. Offenders utilize "bounded rationality," or a short-sighted weighing of costs and benefits, to select targets (Wright and Decker 1997; Miethe and Meier 1994). Characteristics of the target may in fact increase the motivation of the offender (Finkelhor and Asdigian 1996), leading to the commission of the crime. In particular, potential targets who in some way broadcast vulnerability or lack of guardianship are at an increased risk of victimization. For a motivated offender who is engaging in bounded rationality in order to select a target that has the lowest probably of fighting off an attack or wounding the offender, a recognizable sign that the target is impaired is extremely important, as this increases the chances that the crime will be successfully completed.

The fact that disability is associated with vulnerability is well known to the disabled, as women with a limiting condition are more likely to express fear of crime

and alter their routines in order to counteract their perceived weakness (Pain 1995). Additionally, official data tells us that one out of every five disabled victims cites their condition as the primary reason for their victimization (Rand and Harrell 2009). Clearly, disabled men and women are aware of the role that their impairment plays in their victimization, but this does not explain why offenders hone in on disability when selecting a target. After all, elderly white women should present suitable targets due to their physical limitations, but they experience crime at a much lower rate than any other demographic group (Truman et al. 2013).

Finkelhor and Asdigian's (1996) target characteristics approach to victimization provides a means for understanding why offenders view certain targets as particularly suitable for a crime. The authors state that targets themselves may unintentionally provide offender motivation by appearing more vulnerable, particularly well-suited for a specific type of crime (graftable), or may in some way antagonize potential offenders simply because they belong to a particular group. This theoretical perspective is important to consider because it connects physical characteristics of the target to larger social ideas about difference and suitability. The disabled can certainly be said to be socially vulnerable and well-suited targets for a number of crimes. A target characteristics approach informs the larger discussion of disability and victimization because it suggests that this relationship is the product of a socialized understanding of disability as a signifier of difference, one that lowers the cost of offending against a socially vulnerable group.

The non-disabled view the disabled as possessing traits and characteristics that separate them from the larger, non-disabled population. Several studies have asked

non-disabled students to describe the disabled. Although these are mostly older studies, the results consistently show that the disabled are regarded as naïve, sheltered, pure, different, vulnerable, quiet, isolated, helpless, depressed, and lonely (Beckett 2004; Morris 1991; Harley 2002; Stuart 1994). This demonstrates that disability acts as a master status that trumps all other statuses in terms of what we think is responsible for a person's disposition. All of the above listed characteristics attributed to the disabled explain why offenders view the disabled as vulnerable and well-suited for a number of crimes. Persons who are cut off from social support and are emotionally helpless offer little resistance when confronted with violence or the threat of violence. Additionally, while these general attributions are problematic, the fundamental feeling of difference conferred upon those with an impairment also extends to how others see the sexuality of the disabled. Disabled persons, particularly women, are viewed as gender atypical, asexual, less likely to date, and unable to produce children (Robillard and Fichten 1983; Beckett 2004). Returning to Finkelhor and Asdigian's target characteristics approach to crime, we see that these views on disabled sexuality makes disabled women especially well-suited targets for sexual assault since offenders can rationalize their actions – because they are being carried out on someone who has been dehumanized. The disabled are seen as more "attractive" targets because they produce fewer feelings of guilt when they are violated and are also viewed as less likely to report their victimization, thereby reducing the cost of sexually offending against this population.

This view of disability as an indicator of difference and inferiority also extends to the criminal justice system. Reporting victimization or abuse is uncommon because the disabled often believe that the criminal justice system is unwilling to meet their

needs. Only 40% of aggravated assaults committed against persons with disabilities were reported to police in 2010, compared to 65% committed against persons without a disability (Harrell 2012). Disabled populations are more likely than the non-disabled to rate law enforcement poorly when it comes to enforcing laws, responding to calls, treating people equally, providing justice quickly, helping the victim, determining guilt, and ensuring a fair trial (Perreault 2009). This suggests that the disabled do not feel that the criminal justice system adequately protects them from harm. Even though disability is considered a protected status under federal hate crime law, disability is one of the least reported form of bias motivated crime (1.4% of all bias crimes), ahead of only gender and gender identity (Grattet and Jenness 2001; US Department of Justice 2014). The low number of impaired persons reporting their crimes as bias motivated is very surprising, given that disabled victimization rate is so high and, as stated previously, the disabled frequently cite their impairment as the cause of their victimization. In 2001, only 21 states included disability bias on their list of recognized hate crimes (Grattet and Jenness 2001), however as of 2010, 34 states have adopted hate crime laws that specifically protect disabled victims (Anti-Defamation League, 2011). President Obama added disabilities to the list of federally recognized hate crime targets in 2009 (Diament 2009). Clearly more government agencies are recognizing the threat to persons with disabilities, but based on the number of crimes reported by persons with a disability, this population still does not believe that the criminal justice system is interested in their wellbeing.

Tyiska (2001) suggests that one of the reasons why the disabled so rarely report their crimes, or carry them to court, is the criminal justice system is rooted in structural

abilism. For example, many court houses are not ADA compliant, there is little training of police or victims' rights groups on how to treat disabled victims, and there are few disabled persons in visible criminal justice positions. Additionally, crimes against disabled persons by caretakers or in institutions are rarely prosecuted as assault or sexual assault; instead police often choose to label these crimes as "abuse" or "neglect" (Sherry 2000). This allows crimes committed inside institutions to be investigated internally and decreases the penalties associated with assault when it is carried out by a parent or partner (Tyiska 2001). All of these features tell the disabled that the courts are for non-disabled persons only. Neufeldt (1995) goes as far as suggesting that the frequent victimization of the disabled is the direct result of this unwillingness to protect impaired populations; offenders recognize that the courts do not care about disabled victims, thereby reducing the cost of offending against the impaired.

Although simply citing disability as the primary cause of high rates of victimization for the disabled has high face validity, it does not explain why this group is so frequently targeted. I contend that the way our society views disability is responsible for victimization by defining a group as physically and socially vulnerable. It is clear that both the disabled and the non-disabled are cognizant of how impairment essentially serves as a social division. The non-disabled are socialized to believe that disability equates to difference, the disabled recognize that their impairment marks them as easy targets, and the criminal justice system applies the law differently depending on the ability status of the victim. However, disability is not the only individual-level explanation for why the disabled are the frequent victims of violent and sexual crimes.

Disability is correlated with a number of disadvantages, that, taken together, create personal contexts that increase the risk of victimization.

THE PERSONAL CONTEXTS OF DISABILITY

CRIMINOGENIC CORRELATES OF DISABILITY

The belief that disability equates to inferiority affects the daily lives of the disabled, often in ways that increase the risk of victimization. The disabled are disproportionately likely to be divorced or never married (Brault 2012; Thompson-Hoffman and Storck 1991; Booth and Johnson 1994; Goldman 1993), which is important because married individuals have lower overall rates of violent crime victimization (as well as lower rates of being robbed by a stranger), while the never married and divorced/separated are at higher risk of experiencing violent victimization and assault (Truman et al. 2013; Meithe and Meier 1994). Low rates of marriage for the disabled have been explained as resulting from low levels of sexual self-esteem and a general thought that disabled persons make poor partners because they are often thought of as asexual (Taleporos and McCabe 2001, 2003; Milligan and Neufeldt 2001). Additionally, not being married is associated with higher levels of social isolation (Hawthorne 2006; Mullins et al. 1996; Thoits 1982). Social isolation, or the lack of guardianship that accompanies living alone, is associated with higher overall rates of violent crime victimization, robbery, assault, and burglary (Meithe and Meier 1994; Krotoshi et al. 1996). Not being married in America can carry many costs, including an increased risk of victimization.

Just as the disabled are more likely to live in isolation, this population is also more likely to have a lower socioeconomic status than individuals without an

impairment. The disabled have lower levels of education (Brault 2012; Wiseman et al. 1998) and employment (Brault 2012; Seff et al. 1992; Charles and Stephens 2004; Richardson 1994). Because of these deficits, the disabled are more likely to live in poverty (Thompson-Hoffman and Storck 1991; Nuefeld 1995). Almost half of all severely disabled persons are unable to work, while only 9.2% of non-disabled persons report long-term unemployment (Brault 2012). Nearly 60% of all severely disabled Americans age 25 to 64 receive some form of government assistance and 28% have an individual yearly income of less than $5,000 (Brault 2012). Conversely, only 12% of non-disabled men and women receive public assistance, while 25% earn less than $5,000 a year. Furthermore, 28.6% of the severely disabled live below the poverty line compared with 14.3% of the non-disabled. It should be noted that these economic gaps between the disabled and non-disabled segments of the population have narrowed since 2005, but only because the quality of life for non-disabled persons has decreased. Both low levels of education (less than a high school diploma) and being unemployed are associated with higher rates of overall violent crime, robbery, and assault (Meithe and Meier 1994; Truman et al. 2013).

Both low levels of employment and low levels of education for the disabled have been partially explained as an issue of access. Many school classrooms and work environments are not designed to accommodate different levels of physical functionality (Holloway 2001; Oliver 1992; Devlin and Potheir 2006). Segregation of disabled students into special education classes also reduces the educational (and financial) attainment of persons with a disability because special education instruction rarely involves using grade appropriate curriculum, creating a gap in human capital skills by

disability status (Lewis 2014). While we normally think of special education as necessary only for students with a cognitive, learning, or emotional problem, physical disabilities are covered by the Individuals with Disabilities Education Act (Aron and Loprest 2012). Over 50,000 students aged 6-21 in the US are placed in special education classes because they suffer from an orthopedic disability (US Department of Education 2014).

Disability is also associated with a number of risk factors that directly increase the odds of victimization, such as substance abuse and a history of maltreatment by adults. Risky behaviors have been shown to precede a majority of crimes (Rapp-Paglicci and Woda 2000) for both perpetrators and victims of crime (Esbensen and Huizinga 1991; Rivara et al. 1995). Specifically, behaviors associated with low self-control such as drug and alcohol use, time spent in or around bars, involvement with guns, and criminal activity have all been shown to increase criminal victimization (Forde and Kennedy 1997; Schreck 1999; Schreck et al. 2002; Lauritsen et al. 1991; Piquero et al. 2005; Smith and Ecob 2007; Stewart et al. 2004). These risky behaviors can increase victimization in two ways. First, participation in risky activities often leads to spending time in unsafe areas, such as illegal drug markets or disorganized neighborhoods (Jensen and Bromfield 1986; Eck and Weisburd 1995; Felson and Boba 2010). Second, activities such as drinking and drug use decrease an individual's ability to practice self-guardianship (Jensen and Bromfield 1986; McElrath et al. 1997; Sterk 1999).

The disabled may subject themselves to increased victimization because functional limitations can push men and women to engage in deviant substance use.

Research has traditionally shown a high prevalence for drug and alcohol use by the disabled (Heinemann et al. 1989; Turner et al. 2006; Moore and Li 1998; Heinemann et al. 1992). High rates of alcohol and drug use appear to occur because the onset of a disability is associated with depression, anxiety, pain, and a general lower quality of life (Heinemann et al. 1992; Kennedy et al. 2000; Smedema and Ebener 2009). Enduring a life-changing event such as back failure creates high levels of strain, leading to maladaptive behavior whereby the disabled self-medicate (Wolf-Branigin 2007; Yu et al. 2008; Livneh 1986; Wright 1983). This link with substance use is particularly problematic, as these risky behaviors lower an individual's self-guardianship and increase the chances that he/she will spend more time in a high-risk location such as a bar. This elevates the chance that someone with a disability will experience victimization, because the disabled are already seen as more vulnerable targets, even when they are not in a state of intoxication.

It should be noted that the literature stated above discusses how individuals engage in negative coping when the onset of disability occurs as the result of a debilitating accident. But, individuals who are born with a disability also may engage in self-medicating behaviors caused by the daily strain associated with their impairment. However, we know very little about the differences between individuals born with a physical disability and those who experience a debilitating event because age at onset is seldom included in survey data (Livermore and She 2007) and most research on disability and substance use comes from rehabilitation councilors who help clients adjust to a new impairment. Being born with a disability likely creates divergent trajectories through life and results in a very different lived experience compared to

individuals who must adjust to disability later in life. Despite potential differences between the types of strains associated with age at onset, negative coping mechanisms for all disabled persons are likely very similar. Additionally, the relationship between disability and increased substance use is observed in high school students, who are more likely to be born with a disability than rehabilitation counseling clients (Jones and Lollar 2008). Whether one is coming to terms with a loss of function or the persistent effects of decreased physical ability, drug and alcohol use present a tempting means of self-medication.

Prior physical and sexual abuse greatly increases the risk for future victimization. McIntyre and Widom (2011) find that any kind of abuse or neglect predicts subsequent victimization by non-intimates, but this effect is partially mediated by risky behavior (running away). Desai et al. (2002) expand on this idea by detailing the effects of physical and sexual abuse. The authors find that experiencing sexual abuse as a child increases the risk of violent victimization by 130% and sexual victimization by 300%, while physical abuse increases the chances of violent victimization by 270% and sexual assault by 300%. Additionally, when a girl experiences both sexual and physical abuse, this increases her chances of violent victimization by 190% and sexual assault by 480%. While some researchers find an independent effect of abuse on victimization, even when controlling for factors such as drug use, income, and repeat victimization (Parks et al. 2011; Daigle et al. 2008), there is ample evidence that abuse creates negative reactions, leading to an increased likelihood to engage in risky and self-destructive behaviors such as excessive drinking

and/or drug abuse (Biswas and Vaughn 2011; Messman-Moore et al. 2010; Fargo 2009; Herrenkohl et al. 2013).

Abuse is a particularly strong cause for worry where the disabled are concerned because parents, teachers, and other authorities feel an increased need to supervise and protect their charges (Brothers 2003), but this often leads to increased victimization by those upon which the disabled most heavily rely (Rand and Harrell 2009; Tyiska 2001; Perreault 2009; Wolf-Branigin 2007). The relationship between abuse and disability has been explained as occurring because caretakers utilize violence to ensure compliance, (Noh et al. 1989; Steinmetz 1987; Plummer and Findley 2012; Robinson 2012), frequent interaction between caretakers and patients increases opportunity to offend (Petersilia 2000), and dependence on care reduces a victim's willingness to report abuse (Temkin 1994; Sobsey 1994). Because disabled victims of abuse often face the choice of allowing abuse to continue or living without necessary assistance, this can lead to repeated victimization by the same person (Neufeldt 1991; Rand and Harrell 2009).

At the individual level, victimization of the disabled is often assumed to be a product of impairment itself. However, disability is also correlated with a number of factors that are linked to criminal victimization. It may be the case that offenders do not actually target disability, but because impairment is associated with poverty, isolation, abuse, and substance misuse this creates an indirect relationship between disability and victimization. Similarly, because disability is so closely tied to poverty, this could mean that disabled persons are more likely to live in high poverty, high crime neighborhoods.

NEIGHBORHOOD EFFECTS – CONCENTRATING DISADVANTAGE

Research has shown that there are features of neighborhoods, which regardless of geographic location or compositional makeup, lead to higher levels of crime. A history of crime is a strong predictor of future crime. Furthermore, crime tends to cluster in specific places or "types" of places (Brantingham and Brantingham 1984; Chainey and Ratcliffe 2005, Eck and Weisburd 1995). Because of this spatial relationship between neighborhoods and crime, law enforcement regularly tracks crime within cities, using "hotspots" to determine the best way to police, prevent, and contain criminal activity (Ratcliffe 2004). Most hotspots remain stable over time, or at least do not become displaced into adjacent areas when police crackdown on illegal activity (Weisburd et al. 2006; Green 1995; Taniguchi et al. 2009). However, if left unchecked, high crime areas do tend to spread. Hotspots can be divided into hotpoints, specific areas that remain consistent over time, and hotbeds, which spread out into neighboring areas from an origin point (Ratcliffe and McCullagh 1999). Although crime can spread and dissipate over time, spatial crime patterns tend to be highly dependent on local factors, such as offender mobility, risk, and environmental conditions (Short et al. 2010).

Concentrated disadvantage refers to areas characterized by high levels of poverty, percent of families receiving public assistance, unemployment levels, percent female-headed households with children, and percent African American (Morenoff et al. 2001; Sampson et al. 1997). Using exploratory factor analysis, researchers consistently find that these five variables are highly interrelated and load on a single factor. Concentrated disadvantage has been linked to homicide (Morenoff et al. 2001),

violent crime (Kelly 2000; Fowles and Merva 1996; Sampson et al. 1997), and crime in general (Peterson et al. 2000; Sampson 2001; Miethe and Meier 1994). It has also been linked to other negative outcomes such as lower levels of IQ, teen births, dropping out of school, infant mortality, accidental injury, suicide, and child maltreatment (Brooks-Gunn et al. 1993, 1997a, 1997b; Almgren et al. 1998, Sampson 2001). From a theoretical standpoint, concentrated disadvantage increases crime by segregating the most disadvantaged members of society in deteriorated conditions.

Collective efficacy, which is defined as "social cohesion among neighbors combined with [a] willingness to intervene on behalf of the common good" (Sampson et al. 1997: 918), is a neighborhood-level mechanism that controls crime. High levels of collective efficacy have been shown to decrease robbery, assault, burglary, delinquency, and homicide (Bellair 1997; Sampson et al. 1997; Morenoff et al. 2001; Markowitz et al. 2001; Sampson and Raudenbush 1999). Several neighborhood characteristics decrease collective efficacy. Residential instability prevents residents from forming tight bonds and decreases familiarity with individuals in the area (Miethe and Meier 1994). Likewise, ethnic heterogeneity impairs a community's ability to come together and fight crime because White residents often perceive non-Whites as a racial threat (Parker et al. 2005). Concentrated disadvantage decreases collective efficacy and neighborhood level social control, intensifying the effects of inequality (Costa and Kahn 2003; Alesina and La Ferrara 2000). Collective efficacy is rooted in perceptions of fellow residents as either potential offenders or enforcers of social order. Additionally, the physical appearance of neighborhoods can promote the idea that residents are resistant to crime, or that they admit defeat (Whitely 2011).

According to broken windows theory, observable signs of disorder increase crime in neighborhoods by communicating to potential offenders that residents have seceded control over the area to criminals. Physical disorder, including graffiti, litter, abandoned cars, and empty houses provide visible signs that no one is looking after public spaces (Kelling and Coles 1996; Sampson and Raudenbush 2004; Wilson and Kelling 1982). Neighborhood residents can also broadcast disorder by tolerating open air drug markets, prostitution, intoxication, loitering, and other forms of social disorder. Disorder is also affected by collective efficacy, mediating the relationship between broken windows and crime (Sampson and Raudenbush 1999; Markowitz et al. 2001). Although disorder (or just the perception of disorder) can increase anxiety and crime (Cutrona et al. 2000), the effect of broken windows is strongest in disadvantaged neighborhoods (Sampson and Raudenbush 2004).

As outlined above, neighborhood traits affect crime at both the individual and ecological level. Segregating low income individuals in run-down communities intensifies disadvantage for a population that already experiences demoralization and lives at the margins of society. These conditions do little to raise the cost of offending, because people living in these neighborhoods experience high levels of strain and already have little to lose. Concentrated disadvantage also carries with it a social control dimension, as disorder limits the ability of residents to come together and fight crime. Abandoned buildings, open air drug markets, a high concentration of alcohol distributors, and litter clearly communicate vulnerability and a lack of social control, thereby encouraging crime. While research clearly states that neighborhood effects

matter, little is known about how concentrated disadvantage affects the relationship between disability and crime.

DISABILITY CONCENTRATION AND CRIME

There has been much less research on how disability interacts with neighborhood conditions than individual-level predictors of crime. When researchers do explore the relationship between disability and neighborhood conditions, this is typically done in a descriptive fashion that aims to illustrate the contexts that the disabled are most likely to inhabit, not as part of an explanation of the victimization of the disabled. This approach also tend to focus on elderly disabled neighborhoods, which, while informative as to the characteristics of disabled neighborhoods, likely does not capture the relationship between disability and crime due to the fact that it attenuates with age. Msall et al. (2007) find that in Rhode Island, a higher proportion of disabled youth live in disadvantaged neighborhoods than in affluent communities. Massey (1980) states that in New Jersey, many of the most needy, elderly disabled are segregated into decaying inner city areas characterized by older, low-rent, high density housing. In New York, neighborhoods with a high proportion of elderly disabled residents have low socioeconomic status, high residential instability, low percentage of foreign born populations, a high percentage of African Americans, and high levels of physical disorder (Beard et al. 2009). Beard et al. (2009) find that higher crime in a neighborhood predicts a concentration of physical disability amongst the elderly in New York, but this effect disappears when misdemeanors are omitted. Using confirmatory factor analysis and structural equation modeling, Pruncho et al. (2012) find that violence is associated with elderly disabled neighborhoods in New Jersey, but crime is

not an endogenous variable in this analysis. Freedman et al. (2008) find that crime does not adequately predict disability concentration for both men and women. These studies give us the best descriptive view of disabled neighborhoods available, but they are aimed at explaining what a disabled neighborhood looks like instead of addressing why disability is geographically concentrated and how this affects crime. Consequently, we know very little about the causes and consequences of geographic disability concentration.

There are several explanations for why disabled populations tend to cluster in disadvantaged parts of cities. First, because impairment is associated with low education and income, the disabled may have fewer housing options (Wolch and Philo 2000). Dear and Wolch (1987) refer to this inability to find quality housing as the "ghettoization" of disability. Second, some life history accounts suggest that the disabled prefer to live around others who understand what it is like to live with an impairment (Solis 2006). In this case, cumulative disadvantage sets in, as the choice to live near other disabled residents means electing to move into poorer neighborhoods. Third, disability concentration could be associated with proximity to care. For individuals that require frequent medical or psychological treatment, this restricts their housing options to neighborhoods near medical facilities (Wolch and Philo 2000; Metraux et al. 2007). This explanation accounts for group homes and populations that require full-time assistance, but does not explain why group quarters and care facilities would be located in disadvantaged areas. Fourth, poverty and disadvantage could actually have a causal effect on disability. Physical and mental health tend to be lower in disadvantaged neighborhoods, and more individuals from lower class neighborhoods

develop an impairment compared to affluent men and women (Msall et al. 2007; Kawachi 2003; Morgan et al. 2008; Whitley and McKenzie 2005; Marmot 2001). Accordingly, the relationship between disability and crime would then be the product of neighborhood conditions, because both outcomes are generated by inequality.

CHAPTER SUMMARY AND HYPOTHESES

Each of the three explanations outlined above as to why the disabled are victimized at such high levels are well supported and have high face validity. However, each of them is based on the idea that disabled persons have different characteristics and lead very different lives compared to the non-disabled. Before directly testing the causes of disabled victimization, I begin by examining how the disabled and non-disabled subsamples contrast in Chapter 4. My first hypothesis, that disability is a distinct pathway to victimization, is certainly supported by the high rates of victimization for the disabled, and the idea that the vulnerability associated with impairment makes the disabled easy targets for crime. This hypothesis will be tested in Chapter 5. If disability status is a significant predictor of victimization, net of personal contexts and neighborhood conditions, then I will conclude that yes, disability is a unique pathway to victimization. The second hypothesis, that disability and crime are both produced by disadvantage, is based in the fact that the disabled are more likely to live in poverty, be socially isolated, and are more likely to engage in risky behaviors than the non-disabled. If disability is mediated by any variables in the multivariate model in Chapter 5, then I will conclude that the relationship between physical impairment and victimization is the product of social and economic disadvantage, not directly from disability itself. The third hypothesis, that disabled persons are more

likely to inhabit high crime, low income neighborhoods is also tested in Chapter 5. If it is the introduction of neighborhood variables that mediates the effect of disability on victimization, then I will conclude that disability concentration in disadvantaged areas is the proximal cause of victimization of the physically impaired. Additionally, in Chapter 6 I explore the possibility that disability has a moderating effect on victimization; that persons with an impairment have divergent pathways to victimization compared to the non-disabled. Because there has been so little work comparing the disabled and the non-disabled, there is no way to draw an empirically based hypothesis as to which variables will be moderated by disability, or even if any moderation takes place. The next chapter details the data used to test these hypotheses.

CHAPTER 3 – METHDOLOGY

DATA AND SAMPLE

The data to test these hypotheses came from the National Longitudinal Study of Adolescent Health (Add Health). Add Health began in 1994 as a nationally representative sample of high school students (Harris et al. 2009). In-school and at-home components were administered, with respondents coming from 132 schools in 80 communities. Questions included information on health, criminal offending, victimization, and other social variables. There have been three subsequent waves of data collection, the most recent of which (Wave IV) was conducted from 2008-2009. Wave IV included information from 80% of eligible sample members, and was administered in a 90-minute computer aided format. Wave IV has 5,114 valid cases. Each wave of data also contains information on neighborhood contexts compiled from official published sources, such as the Federal Bureau of Investigation and the US Census Bureau. These measures are all tabulated at the Census tract level. Each tract contains between 1,200 and 8,000 people and is relatively stable over time (U.S. Census Bureau, 2010). Census tracts are determined by local participants prior to each Census. Tracts are admittedly larger than what we normally consider to be a neighborhood, but this was the smallest unit of analysis available in the Add Health data.

I used data from the most recent wave of the study that includes neighborhood context variables, Wave IV. The Add Health contextual data include information that carries the risk of re-identification, thus requiring a data contract and special security plan to ensure respondent privacy. Stepwise deletion was used to deal with missing data, meaning that a respondent was removed from analysis if he/she had a missing

value on any variable in analysis. This obviously introduces some bias in the results, but at least with stepwise deletion, the mechanism behind this bias is known, unlike what can occur with other techniques used to correct for missing values (Allison 2002). Stepwise deletion reduced the sample by 450 (only 2 cases were dropped due to missing neighborhood variables), leaving a sample of 4,664. Descriptive statistics are presented in tabular form for each variable heading, except for the grouping variable, which is only discussed at the beginning of the neighborhood variables section.

DEPENDENT VARIABLES

Table 3.1 Descriptive Statistics for Violent and Sexual Victimization (N=4,664)

Variable	Range	Mean	SD
Past Year Violent Victimization	0-1	0.20	0.40
Lifetime Sexual Assault – Non-parent/Guardian	0-1	0.15	0.36

I used two variables to capture the effect of multiple forms of victimization. Table 3.1 contains descriptive information on both dependent variables. *Past Year Violent Victimization* was measured using four different questions. Respondents were asked to indicate if, in the past 12 months, they had a knife or gun pulled on them; were shot or stabbed; were beaten up; and were slapped, hit, choked, or kicked. Each of these items is a binary measure asking about victimization in the past year. I considered creating an index of violent victimization, but because there is no way to determine if the crimes were experienced at different times or simultaneously (for example, in order to be shot/stabbed, one must have a gun/knife pulled on them), this was not an ideal approach since there was no way to guarantee that this would produce a measure of

more crimes committed against a person. As a result, I decided to create a general binary measure of violent victimization covering events occurring in the past year. A sizeable percent of the sample, 20 percent (SD = 0.40), experienced at least one incident of violent victimization in the year prior to survey administration.

Lifetime Sexual Assault – Non-parent/Guardian was constructed from two questions[1]. Respondents were asked, "if you have ever been forced, in a non-physical way, to have any type of sexual activity against your will? For example, through verbal pressure, threats of harm, or by being given alcohol or drugs?" Second, respondents were asked, "Have you ever been physically forced to have any type of sexual activity against your will?" For both of these questions, respondents were directed to not include any experiences with a parent or adult caregiver. In addition to these two questions about sexual assault from a non-family member, Add Health also includes a separate measure of sexual abuse by a parent or caretaker, which is described later in this chapter as a risk factor. I decided to separate parental and non-parental sexual victimization because the focus of this dissertation is on the victimization of adults aged 25-34, and the parental abuse question asked about events before the respondent was 18. Respondents who answered yes to one or both of these questions were coded as 1 in a dichotomous dummy variable. Approximately 15 percent (SD = 0.36) of the sample had experienced sexual assault by a non-guardian. I separated lifetime sexual assault from other forms of violent victimization in the past year because the motives

[1] Although sexual assault is more commonly experienced by women, I elected to retain males in the sample. I have previously examined the risks associated with sexual assault by sex, and found that although there are some differences in the predictors and effect sizes for men and women, there was a relatively high degree of similarity in the split sex models (Bones 2013). Additionally, although an intersectional approach to disability and victimization is certainly an area that needs attention, it is beyond the scope of this dissertation. As a result, I decided to focus on a general model of sexual assault instead of splitting the sample by sex.

behind sexual assault likely create different pathways to victimization that would be lost in a general measure of violent crime.

DISABILITY MEASURES

Table 3.2 Descriptive Statistics for Long Term Disability Measures (N=4,664)

Variable	Range	Mean	SD
Physically Disabled	0-1	0.05	0.22
Visible Signifier of Disability	0-1	0.01	0.10

Physical disability, the focal independent variable in this dissertation, was measured with one primary indicator and one additional variable in order to account for the variation within the larger physically disabled population. Descriptive statistics for both disability measures can be found in Table 3.2. *Physically Disabled* was measured with one question which asked, "How much does your health now limit you in these activities: moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, playing golf?" Possible responses included not limited, limited a little, and limited a lot. Respondents who indicated that they are limited a little or a lot were coded as 1 in a dummy variable, while respondents who were not limited were coded as 0. In order to ensure that disability occurred before violent victimization, this variable was combined with a measure of long-term disability to restrict the disabled to persons having a disability longer than one year. The filter question was "Is your limitation in activities caused by a condition that has lasted more than a year, or by a condition that has developed recently?" Those who responded that the limitation was developed recently were filtered out. Inclusion of this variable decreased the number of

respondents regarded as disabled from 412 to 233, which constituted 5 percent (SD = 0.22) of the sample.

Visible Signifier of Disability was derived from one question, which asks, "Do you use a brace, cane, wheelchair, or other device because of a physical condition?" Respondents who answered yes were coded as 1 while respondents who do not use a device were coded as 0 in a dummy variable. This variable was also adjusted to include only persons who have had a visible signifier of disability for more than one year. This decreased the number of disabled persons with a visible signifier of disability from 155 to 47, which constitutes 1 percent (SD = 0.10) of the sample. I interpret disability status as an indicator of vulnerability that can lead to risky behaviors, increasing a selection effect for higher odds of victimization, while visible signifiers represent push factors for motivated offenders by highlighting target attractiveness. Although both of these measures tap disability, they have not led to problems with multicollinearity when used together in the past (Bones 2013).

DEMOGRAPHICS

Several demographic variables were included to control for various independent effects on criminal victimization. Descriptive statistics for these measures can be found in Table 3.3. *Age* was measured as a continuous variable ranging from 25-34. A squared term of age was also included in analysis to control for a non-linear relationship between age and victimization. These variables were mean-deviated to account for the multicollinearity presented by essentially measuring the same concept twice. The

average age of the sample was 29, with a standard deviation of 1.77. *Race* consisted of a series of dummy variables resulting from interviewer racial assessment. These three

Table 3.3 Descriptive Statistics for Demographic Variables (N=4,664)

Variable	Range	Mean	SD
Age	25-34	29	1.77
Age²	625-1156	844.01	102.75
Race			
White (Reference)	0-1	0.72	0.45
African American	0-1	0.23	0.42
Asian	0-1	0.03	0.17
Native American	0-1	0.01	0.09
Male	0-1	0.45	0.50
Education			
< High School (Reference)	0-1	0.07	0.26
High School and Vo. Tech.	0-1	0.26	0.44
Some College or College Degree	0-1	0.54	0.50
Post-Bachelor's	0-1	0.13	0.34
Received Public Assistance 2002-2008	0-1	0.24	0.47
Currently Working (10+ hrs/week)	0-1	0.67	0.47
Income	0-999,995	34,718.06	45,264.07
No Insurance	0-1	0.21	0.41
BMI	0-70.3	28.68	8.05
BMI²	0-4,942.09	887.42	509.33

dummy variables compare the effect of being phenotypically Black, Asian, or Native American, against Whites. Interviewer assessment was used instead of self-reported race because the visible appearance of a racial identity is likely more strongly related to offender target selection than subjective identification[2]. The sample was

[2] Self-identified race was not a part of the Add Health Wave IV data, nor was Hispanic ethnicity. I considered merging the Hispanic variable from Wave III with the Wave IV data, but this reduced the overall sample by over 800, decreased the number of disabled respondents to 188, and disabled respondents with a visible signifier to 36. In order to not lose more members of the focal group of this study, I decided to maximize the sample size at the expense of this control variable.

approximately[3] 72% White, 23% Black, 3% Asian, and 1% Native American. *Male*, a simple self-identified binary measure of gender was used as a control, with females as the reference group. Forty-five percent (SD = 0.50) of the sample identified as male.

Five variables were included to account for social class: education, receiving public assistance, currently working, income, and lack of insurance. *Education*[4] was derived from one question. The original variable ranged from 1 to 13, with 8th grade or less being 1 and completed post baccalaureate professional degree being 13. This variable was collapsed into four categories: less than high school, high school and vocational training, some college and bachelor's degree, and professional/graduate school or degree. The decision to code the variables in this manner was the result of two factors. First, this variable was originally an ordinal variable that was ranked not according to years of education, but by prestige with professional degrees having a higher ranking than Master's or Doctoral degrees. Because the order was not determined by a linear measure, such as years of education, it could not be treated as an interval variable. The second reason for this particular coding scheme is that is that the original variable was deemed unnecessarily taxing in terms of the number of dummy variables it required and in the presentation of what is a control variable in this study. While there may be some information lost due to the collapsing of response options, I maintain that separating the sample into less than high school, high school and vocational training, college, and post-bachelor's degree constitutes a valid approach to the subject of education and social class; the coded responses correspond to lower class,

[3] Due to rounding, several of the categorical variable percentages do not equal 100.
[4] Parent's education, a normal indicator of socioeconomic status was also not available in the Wave IV data. As with Hispanic ethnicity, I decided not to include this variable from Wave III due to concerns about sample size reduction.

working class, middle class, and upper class. In the sample, 7% had below a high school diploma, 26% had a high school diploma or at least some vocational training, 54% had some college or a college degree, and 13% had at least some graduate/professional experience or a graduate/professional degree.

Received Public Assistance was measured with one item, which asked, "Between 2002 and 2008, did you or others in your household receive any public assistance, welfare payments, or food stamps?" Respondents who did receive public assistance were coded as 1 in a dummy variable, and comprised 24% of the sample (SD = 0.47). *Currently Working* (*10+ hrs/week)* was derived from one question asking if the respondent was currently working at least 10 hours a week. Sixty-seven percent of the sample (SD = 0.47) was currently working. *Income* was taken from one question asking respondents to provide their best guess of how much they earned in the past year. The average income for the sample was $34,718.06, with a range of $0-999,995 and a standard deviation of 45,264.07. Logistic regression does not require univariate normality (Knoke et al. 2002), so the variable was not logged to improve skew or kurtosis. *No Insurance* was included as another social class measure, one which also relates to disability. The original variable included having no insurance, as well as having insurance through work, school, union, spouse, parent, active military, private insurance, Medicaid, Indian insurance, and having insurance but not sure of where coverage comes from. I decided to transform this into a binary measure of lacking insurance or not, with persons covered by some form of insurance as the reference group in a dummy variable. Although I acknowledge that the quality of medical coverage varies with the type of insurance one receives, for this particular research

project I was only interested in if a person did or did not have coverage, as being without insurance could indicate lower socioeconomic class and decreased access to medical care. Lacking insurance could also push persons towards risky, self-medicating behaviors that can increase criminal victimization. Twenty-one percent of the sample (SD = 0.41) was not covered by some form of insurance.

BMI was included in analysis to help pull weight-based difficulties with daily tasks from other kinds of impairments. BMI was computed by the Add Health research team and ranged from 0 to 70.3, with a mean of 28.68 and standard deviation of 8.05. A squared term of BMI was included to capture a curvilinear effect since physical ability should be most impaired for persons severely underweight or overweight. These two measures were mean deviated to account for multicollinearity.

HOME AND FAMILY

Table 3.4 Descriptive Statistics for Home and Friend Characteristics (N=4,664)

Variable	Range	Mean	SD
Number of Close Friends	0-4	2.15	0.98
Married and Living Together	0-1	0.41	0.49
Place of Residence			
With Parents (Reference)	0-1	0.14	0.35
Other Person's Home	0-1	0.06	0.23
Own Home	0-1	0.80	0.40
Group Home	0-1	0.01	0.09
Number of Roommates	0-15	2.17	1.58
Live in Same State as Last Interview	0-1	0.68	0.47
Contact with Mother	0-5	2.64	1.71
Contact with Father	0-5	2.24	1.72
Number of Live Births	0-7	0.97	1.15

In order to capture the characteristics of the respondent's home life and access to social support, I included seven variables designed to tap into various parts of home and family life. These variables are presented in tabular form in Table 3.4. *Number of Close Friends* was included to in order to account for social support for the respondent. This measure was generated from one question which asked, "How many close friends do you have? (Close friends include people whom you feel at ease with, can talk to about private matters, and can call on for help.)" Possible responses ranged from none (0) to ten or more (4). This ordinal variable was treated as interval in analysis. The mean number of close friends in the sample was 2.15, with a standard deviation of 0.98.

Married and Living Together was calculated by taking one question which asked "What is the current status of your marriage to {initials}?" Possible responses to this included living together, living apart because of legal separation, and living apart for some other reason. There was also an option for a legitimate skip if the respondent indicated that they had never been married. This variable was transformed into a binary measure where persons who were married and living together were coded as 1 and all other options (including legitimate skips) were coded as zero. I chose this question and coding (as opposed to a measure of ever having been married) to account for the added guardianship that accompanies living with a partner, as well as the potential effect of marriage in creating prosocial changes in daily life (Laub and Sampson 2003). Forty-one percent of the sample (SD = 0.49) was married and living together at the time of survey administration.

Place of Residence was a series of dummy variables constructed from one question which asked, "Where do you live now? That is, where do you stay most

often?" Possible responses included living with parents, living in someone else's dwelling, living in a dwelling you own, or living in a group home (school dorm, military barracks, etc.). Homeless was also an option, but was dropped from analysis because after pairwise deletion, there were no homeless persons in the sample. Living with parents is the reference group in analysis. This measure was included to account for potential guardianship and general daily living context presented by where one lives, and who with. In the sample, 14% lived with their parents, 6% lived at someone else's dwelling, 80% lived in a dwelling they owned, and 1% lived in a group home. *Number of Roommates* was included to help determine how many persons the respondent lived with. This was an interval measure ranging from 0-15, with a mean of 2.17 and a standard deviation of 1.58. *Live in Same State* was included as a rough proxy for residential stability. Respondents were asked to indicate if they lived in the same state as they did at the time of the last interview. Sixty-eight percent of the sample (SD = 0.47) lived in the same state.

Three questions asked specifically about family context and family formation. *Mother Contact* was taken from one question, which asked "How often do you and your (mother figure) see each other?" Possible responses included from never, once a year or less, a few times a year, once or twice a month, once or twice a week, and almost every day. This variable was treated as interval, with a mean of 2.64 and a standard deviation of 1.71. *Father Contact* was taken from an identical question asking about father figure instead of mother figure. The mean level of contact with a respondent's father was 2.24, with a standard deviation of 1.72. These measures were included to account for both social support, as well as guardianship of the respondent. *Number Live*

of Births was included to account for family formation. This interval variable was the result of two questions. The first asked respondents to indicate the number of times they had been pregnant, or had made a partner pregnant. The second asked how many of these had led to live births[5]. Responses ranged from 0 to more than 7. The mean number of live births in the sample was 0.97, with a standard deviation of 1.15.

RISK

Table 3.5 Descriptive Statistics for Risk Variables (N=4,664)

Variable	Range	Mean	SD	Alpha
Offending History	-1.44-80.36	-0.08	4.95	0.70
Damaged Property	0-3	0.04	0.23	
Stole > $50	0-3	0.02	0.17	
Stole <$50	0-3	0.01	0.13	
Went into House to Steal	0-3	0.01	0.12	
Used Weapon to Steal	0-3	0.09	0.48	
Sold Drugs	0-3	0.05	0.28	
Group Fight	0-3	0.03	0.21	
Bought/Sold/Held Stolen Property	0-3	0.03	0.22	
Stole Credit Card	0-3	0.01	0.10	
Serious Fight	0-3	0.06	0.26	
Drug Use in Past Month	0-1	0.06	0.24	
Physical Abuse	0-1	0.18	0.38	
Sexual Abuse	0-1	0.05	0.22	
Emotional Neglect	0-5	1.40	1.80	
Angry/Hostile Personality	-6.60-10.74	-0.03	3.08	0.78
Easy to Anger	1-5	2.56	1.02	
Irritable	1-5	3.00	0.99	
Loses Temper	1-5	2.45	0.99	
Loses Cool	1-5	2.17	0.74	

[5] I originally intended to also include a measure of currently pregnant to account for the change in daily routines that typically accompanies pregnancy, but this measure had a number of missing cases due to a coding mistake by Add Health survey administrators that labeled some women as "male," resulting in the question not being asked to part of the sample that should have been asked.

I included several measures to control for victim experiences/traits that can increase the odds of subsequent victimization, including unsafe victim behaviors, negative life events, and a risky personality trait. Descriptive statistics for these variables are presented in Table 3.5. *Offending History* is a scale composed of ten questions. Respondents were asked to indicate how often they deliberately damaged property; stole something worth more than $50; stole something worth less than $50; went into a house or building to steal something; used (or threaten to use) a weapon to get something from someone; sold marijuana or other drugs; took part in a physical fight where a group of their friends was against another group; bought, sold, or held stolen property; used someone else's credit card without their knowledge; and got into a serious fight in the past 12 months. Responses to these questions all ranged from 0-3, with zero being never and three 5+ times[6]. Factor analysis revealed that these items cluster around a single factor of offending. These ten measures form a scale with an alpha of 0.70, which could not be significantly increased by omitting any items. These items were transformed into z-scores and summed into a scale which ranged from -1.44 to 80.36, with a mean of -0.08 and standard deviation of 4.95. Offending history was taken into account because crime provides opportunities for victimization, and can put persons into unsafe contexts with dangerous people.

Drug Use in Past Month was derived from a series of questions. Respondents were first asked if they had used one of the following drugs: sedatives, tranquilizers, stimulants, pain killers, steroids, cocaine, or crystal meth. The respondent was then prompted to pick their favorite drug from this list and describe how often they used this drug in the past 30 days. Respondents who indicated they used their favorite drug at

[6] Means and standard deviations for all ten individual items can be found in Table 3.5.

least once in the past 30 days were coded as 1 in a dummy variable. This question was selected for inclusion in analysis for two reasons. First, the drugs included in these questions are all potentially habit forming, which could indicate addiction as opposed to recreational use. Second, neither alcohol nor marijuana was included in the list of drugs. Both of these substances were originally included in preliminary analysis, but were eventually omitted because neither had a significant effect on victimization when (hard) drug use was included. Six percent of the sample (SD = 0.24) had used drugs in the past month.

I included three different measures of abuse. Responses for all of these items ranged from never (0) to more than ten times (5). *Physical Abuse* was measured with one question that asks, "Before your 18th birthday, how often did a parent or adult caregiver hit you with a fist, kick you, or throw you down on the floor, into a wall, or down stairs?" Respondents were coded as 1 in a dummy variable if they had ever experienced physical abuse. Eighteen percent of the sample (SD = 0.38) had experienced physical abuse by a parent or guardian before the age of 18. *Sexual Abuse* was measured with one question that asks, "How often did a parent or other adult caregiver touch you in a sexual way, force you to touch him or her in a sexual way, or force you to have sexual relations?" Respondents were instructed to include events occurring before the age of 18. I chose the to transform this ordinal variable into a binary dummy variable because I felt that regardless of the frequency, having ever been subjected to sexual abuse by a parent or guardian is sufficient to lead to negative, self-medicating or other risky behaviors. Five percent of the sample (SD = 0.22) had ever experienced sexual abuse. *Emotional Neglect* was measured by one question that asks,

"Before your 18th birthday, how often did a parent or other adult caregiver say things that hurt your feelings or made you feel like you were not wanted or loved?" Because feeling unloved likely has a differential effect depending on frequency of the feeling, unlike sexual or physical abuse which are much more rare and potentially damaging with only one occurrence, this variable was left in its original state and treated as an interval variable. The mean level of emotional neglect in the sample was 1.40, with a standard deviation of 1.80.

Angry/Hostile personality was generated using four questions, each of which asked the respondent "How much do you agree with each statement about you as you generally are now, not as you wish to be in the future?" The prompts provided to the respondents included: "I get angry easily, I rarely get irritated, I lose my temper, and I keep my cool." All items were measured on a Likert scale ranging from 1-5, with low values indicating strongly agree and high values strongly disagree. These items were coded such that high values mean high levels of anger and hostility[7]. The scale comprising these four measures had an alpha of 0.78, which could not be significantly increased by omitting any items. These items were transformed into z-scores and summed into a scale. Angry/hostile was included as a risk factor to account for how personality traits can provoke, or at least play a role in, victimization, particularly for violent crimes like assault. The range for angry/hostile was -6.60 to 10.74, with a mean of -0.03 and a standard deviation of 3.08.

[7] Means and standard deviations for these four items can be found in Table 3.5.

NEIGHBORHOOD CONTEXT

Table 3.6 Descriptive Statistics for Neighborhood Context Variables (N=4,664)

Variable	Range	Mean	SD	Alpha
Concentrated Disadvantage	-5.42-21.92	-0.06	3.31	0.69
Percent in Poverty	0-0.83	0.14	0.10	
Percent on Public Assistance	0-0.32	0.03	0.03	
Percent African American	0-100	0.17	0.24	
Percent Female Headed w/Children	0-0.23	0.02	0.02	
Percent Unemployed	0-0.54	0.08	0.05	
Adult Arrest per 1,000 2007	0-1,300	535.08	285.07	
Percent Vacant Housing	0-0.68	0.12	0.08	
Percent Foreign Born	0-0.80	0.10	0.13	
Percent Hispanic	0-0.98	0.12	0.17	
Density per Sq. Mi.	0.21-83,652.24	1,863.81	4,455.38	
Proportion over 25 w/ High School Diploma	0-0.69	0.16	0.11	
Income	6,600-171,600	51,213.14	21,919.27	
Rural-Urban Commuting Area				
Metropolitan Core (Reference)	0-1	0.69	0.46	
Metro/Urban Commuting	0-1	0.20	0.40	
Small Town	0-1	0.06	0.23	
Rural	0-1	0.05	0.22	

As discussed in the previous chapter, neighborhoods have a strong effect on criminal victimization. To measure the effect of neighborhoods on violent and sexual victimization, I included one clustering variable and nine substantive level 2 variables. Table 3.6 contains descriptive statistics for all of these variables, except the clustering variable. Federal Information Processing Standard (FIPS) county code (not included in Table 1) was used as a level 2 spatial indicator. FIPS codes are combinations of numerical representations for state, county, city, zip code, and Census tract that are used to uniquely identify geographic areas in the US. This measure was generated by Add

Health for use in multi-level modeling. It is a pseudo Census measure and cannot be connected to any data not provided by Add Health. There were 3,239 FIPS groups in the data. The maximum number of respondents residing in one FIPS Census tract was 27, but the average was 1.4.

Concentrated Disadvantage was a scale composed of 5 indicators: percent of households living in poverty, percent of families on public assistance, percent of population in the neighborhood that are African American, percent of households headed by a woman with children, and percent of population that are unemployed[8]. The combined scale had an alpha of 0.69. Each of these measures was transformed into z-scores and summed into a scale of concentrated disadvantage. This scale had a range of -5.42 to 21.92, with a mean of -0.06 and standard deviation of 3.31.

Adult Arrest Rate was derived from the adult arrest rate per 100,000 in each Census tract. Crime rates tend to remain stable over time and can be a great predictor of future crime (Chainey and Ratcliffe 2005, Eck and Weisburd 1995). This measure was included in the Add Health protected data, and was originally derived from UCR data. The mean number of arrests per 100,000 was 535.08, with a standard deviation of 285.07. *Proportion Vacant Housing* was included to act as a pseudo-proxy for neighborhood disorder. Vacant houses are an ideal place to engage in a number of illegal activities and hide from law enforcement. The mean percent of vacant properties in a Census tract was 0.12 with a standard deviation of 0.17.

Foreign Born is a measure of per square mile density of non-natives in a Census tract. This measure identified block-groups with a large number of immigrants, who have lower rates of crime than native-born racial or ethnic minorities (Sampson 2008).

[8] Means and standard deviations for these five items can be found in Table 3.6.

The mean percent of foreign born was 0.10, with a standard deviation of 0.13. *Percent Hispanic* is also included to account for ethnic heterogeneity. The mean percent of Hispanic was 0.12, with a standard deviation of 0.17. *Density per Square Mile* was included to account for crowding, which has been shown to increase aggression, as well as opportunities for crime (Gil and Macis 2015). The mean density per square mile was 1,863.81, with a standard deviation of 4,455.38. Proportion *Adults with High School Diploma* was included as a measure of neighborhood socioeconomic status. The mean percent of adults with at least a high school diploma was 0.16, with a standard deviation of 0.11. *Median Income* is also a proxy for social class at the neighborhood level. The mean median household income was $51,213.14, with a standard deviation of 21,919.24. *Rural-Urban Commuting Area* is included to better describe the neighborhood type. Rural-Urban Commuting Area codes are a means of categorizing Census tracts between metropolitan core, metropolitan high commuting, metropolitan low commuting, urban cluster core, urban cluster high commuting, urban cluster low commuting, small town core, small town high commuting, small town low commuting, and rural. I simplified these codes by creating a series of dummy variables differentiating metropolitan core, metro/urban commuting, small town/small town commuting, and rural. In the sample, 69% lived in metropolitan cores, 20% lived in metro/urban commuting areas, 6% lived in small towns, and 5% lived in rural areas.

ANALYTICAL PLAN

There are three phases of analysis. First, in Chapter 4, I examine differences in the mean scores of individual traits and neighborhood contexts between the disabled and non-disabled portions of the sample, using t-tests. Second, I use mixed model

logistic regression to outline the individual and neighborhood level predictors of victimization in Chapter 5. I describe the results of the analyses for violent and sexual victimization separately. I also check to see if individual or neighborhood-level variables mediate the effect of disability on either violent or sexual victimization in Chapter 5. Third, I explore how these differences in individual traits and neighborhood contexts lead to divergent pathways to victimization by disability status, using logistic regression with clustered errors in Chapter 6. Each phase of analysis will begin with a more thorough explanation of the statistical methods used, and the rationale for analysis.

CHAPTER 4 – DIFFERENCES BY DISABILITY STATUS

The first research question stated in the introduction to this dissertation concerns the ways in which the disabled and the non-disabled compare on measures of disadvantage. This chapter addresses this question by examining how physical disability status affects mean levels of important predictors of violent and sexual victimization. While many of the variables in this study have been used in other academic work, I am unaware of prior studies which simultaneously examine how physical disability is related to demographics, home and friend characteristics, adult transitions, risk behaviors, and neighborhood context. By separating these variables into various studies, our view of how disabled and non-disabled persons differ becomes fragmented. This chapter is primarily descriptive in nature, as I use bivariate two-tailed t-tests to depict how the characteristics, experiences, and lives in general of the disabled contrast with those of the non-disabled. Additionally, this chapter serves as a background that will inform the multivariate and moderation analyses that follow in subsequent chapters.

With the exception of the disability variables, all variables discussed in the preceding methodology chapter were examined. The sample was split by disability lasting at least one year. I discuss each grouping of variables independently and present the results in their own tables. For each of these sections, I will focus on the substantive meaning of the differences in means as opposed to repeating the numbers in the tables, except where the size of the difference is considerable enough to warrant discussion. Significant differences were noted in all of the tables alongside the variable names, as a difference in means applies to both the disabled and non-disabled subsamples. It should

also be noted that because the t-tests were computed independently, and not simultaneously, the significant differences found could be explained by other factors in the general model, and may not represent true significant differences when introduced into a simultaneous model with disability status as a predictor.

VICTIMIZATION

Table 4.1 T-tests for Differences in Victimization Between Disabled and Non-Disabled Persons

Variable	Disabled (N=233)	Non-Disabled (N=4,431)
Victimization		
Past Year Violent Victimization	0.25	0.20
Lifetime Sexual Assault – Non-parent/Guardian***	0.24	0.14

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$

Table 4.1 contains the results of t-tests for the dependent variables in this study. There was relatively little difference in the means of violent victimization in the past year by disability status, and the differences that do exist were not significant. Although there is plenty of support in the literature for the idea that disabled persons are targeted by violent offenders, this does not appear to be the case with this sample. However, there was a significant difference in the mean number of lifetime sexual assaults. Almost a quarter of disabled persons experienced sexual assault, compared to only 14% of persons without a disability, and this difference was highly significant ($p \leq .001$). This suggests that in a multivariate model, there is a greater chance that disability will act as a direct pathway to sexual victimization, but not violent victimization. However, it could be the case that when other predictor variables are introduced, the lack of a significant difference by disability status in terms of violent

victimization or the significant relationship between disability and sexual victimization may change.

DEMOGRAPHICS

Table 4.2 T-tests for Differences in Demographics Between Disabled and Non-Disabled Persons

Variable	Disabled (N=233)	Non-Disabled (N=4,431)
Demographics		
Age	29.14	28.99
Age²	852.13	843.58
Race		
White (Reference)	0.67	0.73
African American*	0.30	0.23
Asian	0.01	0.03
Native American	0.02	0.01
Male	0.40	0.46
Education		
< High School (Reference)***	0.14	0.07
High School and Vo. Tech.**	0.33	0.25
College*	0.47	0.54
Post-Bachelor's***	0.06	0.14
Received Public Assistance 2002-2008***	0.48	0.23
Currently Working (10+ hrs/week)***	0.55	0.68
Income***	21,311.01	35,423.06
No Insurance**	0.28	0.20
BMI*	29.99	28.61
BMI²**	990.38	882.00

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$

There were several differences in the demographic characteristics of disabled and non-disabled persons, most of which involve a higher rate of poverty for the disabled. A larger proportion of disabled persons were African American than non-disabled persons, which may reflect the relationship between disability, race, and poverty, since early onset of an impairment may be the result of low-skill labor. Likewise, the education variables were all significantly different by disability status.

Disabled persons were more strongly concentrated in the lower level categories of education (less than a high school diploma or a high school diploma/vo. tech degree), while the non-disabled were much more likely to have at least some college. The disabled were also more likely to receive public assistance, had lower rates of current employment, and earned almost $14,000 less annually. Due to issues with temporal order, there is no way to tell if these findings reflect a selection effect, whereby poverty creates disability, or if impairment restricts the education and employment opportunities of the disabled. It is clear, regardless of the cause, that the disabled are much more likely to experience economic hardships. The disabled did have higher rates of being uninsured, and slightly higher BMI scores.

HOME AND FRIEND CHARACTERISTICS

Table 4.3 T-tests for Differences in Home and Friend Characteristics Between Disabled and Non-Disabled Persons

Variable	Disabled (N=233)	Non-Disabled (N=4,431)
Home and Friend Characteristics		
Number of Close Friends**	1.98	2.16
Married and Living Together*	0.34	0.42
Place of Residence		
With Parents (Reference)**	0.21	0.14
Other Person's Home	0.05	0.06
Own Home*	0.74	0.80
Group Home	0.004	0.01
Number of Roommates***	2.45	2.15
Live in Same State as Last Interview*	0.74	0.68
Contact with Mother	2.58	2.64
Contact with Father	2.11	2.25
Number of Live Births***	1.22	0.95

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$

Table 4.3 contains the differences in means for home and friend characteristics. The disabled had fewer friends than the non-disabled and were less likely to be married and living together. This suggests that the disabled are more likely to be cut off from important sources of social support, which can also serve as guardians that can limit victimization. Additionally, marriage is a lifecourse transition that carries numerous benefits to one's physical and mental health, meaning that the limitations experienced by the disabled may become greater hardships over time. The disabled were also more likely to live at home and less likely to own their own home, which again suggests that the disabled are encountering barriers to full adulthood. Likely due to the increased likelihood of living at home, the disabled had more roommates and were more likely to live in the same state as the time of the last interview. Surprisingly, the disabled had a higher mean number of live births, despite having lower marriage rates. This difference may be tapping functional limitations caused by pregnancy (current pregnancy was not available for analysis due to a coding error by Add Health), or that frequently being pregnant takes its toll on a woman's body. Frequently being pregnant would then be a cause of impairment and, perhaps, associated with low levels of self-control (and use of birth control) that would cause a young woman to have a high number of children by her late twenties/early thirties. This could also be a function of low education/high poverty, since economic disadvantage can increase the number of live childbirths and physical disability. Perhaps it is women who drive this relationship, and maybe more rigorous analysis involving intersections with disability and sex could clarify this relationship. However, that is beyond the scope of this dissertation.

RISK

Despite the large apparent difference in the means for offending by disability status (see Table 4.4), this disparity was not significant. Disabled persons did, however, have higher mean levels of drug use than the non-disabled. It has long been proposed that disabled persons are more likely to engage in self-medicating behaviors to cope with the physical (pain) and social (isolation, depression) costs of impairment (Turner et al. 2006; Wolf-Branigin 2007; Yu et al. 2008). Surprisingly, despite the scholarly link between disability and abuse, the only significantly different parental/caretaker maltreatment measure was emotional neglect. The disabled were also much more likely to have angry/hostile personalities. Disability takes a toll on a person, and can often express itself thorough negative, angry feelings.

Table 4.4. T-tests for Differences in Risk Between Disabled and Non-Disabled Persons

Variable	Disabled (N=233)	Non-Disabled (N=4,431)
Risk		
Offending History	0.41	-0.11
Drug Use in Past Month**	0.11	0.06
Physical Abuse	0.19	0.17
Sexual Abuse	0.07	0.05
Emotional Neglect***	1.79	1.38
Angry/Hostile Personality***	1.36	-0.10

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$

NEIGHBORHOOD CONTEXT

Table 4.5 contains the means for neighborhood variables by disability status. First, although not present in the table, it should be noted that there was a difference in the clustering between the samples. The maximum number of disabled persons who shared the same Census tract was 3, with a mean of 1.1. There was more commonality

between location and survey inclusion for the non-disabled, as the maximum number of persons with the same FIPS was 26, with a mean of 1.4. This tells us more about the sample than the overall concentration of disability in geographic locations.

Table 4.5 T-tests for Differences in Neighborhood Context Between Disabled and Non-Disabled Persons

Variable	Disabled (N=233)	Non-Disabled (N=4,431)
Neighborhood Context		
Concentrated Disadvantage***	1.01	-0.12
Adult Arrest per 1,000 (2007)	502.75	536.78
Percent Vacant Housing**	0.13	0.11
Percent Foreign Born*	0.08	0.10
Percent Hispanic	0.10	0.12
Density per Sq. Mi.*	1,297.68	1,839.58
Proportion over 25 w/ High School Diploma**	0.18	0.16
Income ***	44,845.49	51,547.98
Rural-Urban Commuting Area		
Metropolitan Core (Reference)	0.64	0.70
Metro/Urban Commuting	0.18	0.20
Small Town*	0.09	0.06
Rural*	0.09	0.05

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$

Disabled persons were much more likely to live in a neighborhood characterized by concentrated disadvantage. The mean level of concentrated disadvantage for disabled persons was 1.01, while the mean for the non-disabled was -0.12 ($p \leq .001$). The disabled were also more likely to live in neighborhoods with a higher percent of vacant housing and neighborhoods with a lower average income, both of which should increase the risk of crime. However, they also were more likely to live in less-dense rural areas with higher rates of education, which could reduce crime. They also had lower levels of percent foreign born, which could either increase or decrease crime, depending on the study one examines. One of the hypotheses I specified at the outset of

this dissertation was that neighborhood factors could explain the relationship between disability and crime. The large difference in concentrated disadvantage scores, combined with the higher rates of vacant housing and lower levels of income, certainly suggest that this may be the case, but only a full multivariate model will be able to support this.

CONCLUSIONS FROM T-TESTS

Overall, the results of this descriptive chapter revealed several interesting patterns that should affect the subsequent multivariate analysis. Poverty was a recurrent theme in this chapter, both at the individual and neighborhood level. Criminal victimization is more common in low-income areas and impoverished people are less likely to enjoy the same protections from violent and sexual crime as more affluent persons. The fact that disability was so highly correlated with poverty suggests that mediation may occur in a multivariate model, as the relationship between (individual and/or neighborhood) poverty and disability status may account for why the disabled are disproportionately more likely to be victims than the non-disabled. Similarly, the disabled had lower levels of access to social support, and were less likely to have completed adult transitions. This could also present a potential source of mediation in multivariate analysis. Somewhat surprising was that the risk category had the fewest significant differences.

My first research question to address in this dissertation asked if the disabled were "different" from the non-disabled in terms of the characteristics and contexts that shape their lives. Based on this chapter, it does appear that many differences do accompany a physical impairment. Next, I will explore if physical disability constitutes

an independent pathway to victimization, or if its effect is mediated by any of the other predictor variables.

CHAPTER 5 – DISABILITY AS A PATHWAY TO VICTIMIZATION

This chapter addresses three research questions. First, how does physical disability affect the risk of violent and sexual victimization? Second, does disability directly lead to victimization, or is the strong association between disadvantage and impairment mediating the relationship between disability and victimization risk? Third, what role do neighborhoods play in the victimization risk of the disabled? To address these three questions, I used Mixed Effects Logistic Regression (MELR) in STATA 11. This form of analysis was chosen because multiple cases in the data share the same neighborhood. MELR takes the structure of the data (persons nested in Census tracts) into account and corrects for autocorrelation that can affect the error variance in a regression (Agresti 2013). I set Census pseudo FIPS as the cluster variable in all analyses to account for this autocorrelation.

MELR uses the logit distribution to transform binary data into a continuous probability distribution. The coefficients this produces are in the logit scale, and must be transformed into odds ratios in order to be meaningfully interpreted. Odds ratios (*OR*s) represent the chance of being in one category (in this case, a victim) relative to the odds of not being in that category (Knoke et al. 2002). *OR*s can be interpreted as a percent departure from 100 or as a multiplicative effect. For example, if an *OR* for males is 1.50, then we could say that males are 50% as likely or 1.5 times as likely to experience victimization as females. An *OR* of 1 means there is no difference between the risk associated with group membership, and as numbers depart positively from 1, the odds are considered to increase. As odds depart negatively from one, they are considered to decrease. However, if an *OR* moves negatively further from 1 (from 0.8

to 0.7, for example), then it can be said that the negative effect of the variable is increasing. All coefficients were transformed into *OR*s.

I introduced variables in a stepwise fashion, beginning with the disability measures, then adding demographics, home and friend characteristics, risk, and finally the neighborhood measures discussed in the previous chapter. Due to the large number of variables in analysis, I split the tables. The first table for each dependent variable includes disability, demographics, and home/friend characteristics, while the second table contains risk and neighborhood contexts. Although the tables are separated, each model was run with all specified variables simultaneously. For categorical variables that were transformed into dummy variables, as well as variables which had a level and squared term, I conducted a Wald test to determine if these variables were jointly significant. This can be performed on variables that are measuring the same variable and are mutually exclusive, but have been split into different *Betas* in the regression equation (Greene 2000).

As with the previous chapter, I focus more on the substantive conclusions drawn from the analysis and the stories conveyed by the data than replicating the exact coefficients and significance levels described in the tables. In terms of the research questions this chapter addresses, if disability is indeed a pathway to victimization, then the *OR*s for disability status or visible signifier will remain significant in the final model of analysis. If the *OR*s for either disability measure lose significant with the introduction of a set of variables, then I conclude that significant mediation is taking place. I begin with an examination of how physical disability affects violent victimization, and then move on to sexual victimization.

VIOLENT VICTIMIZATION

Table 5.1a Odds Ratios from Mixed Effects Logistic Regression on Past Year Violent Victimization (N=4,664)

Variable (Reference Category)	(1)	(2)	(3)	(4)	(5)
Disability					
Physically Disabled	1.15	1.01	1.01	0.93	0.91
Visible Signifier of Disability	1.62	1.42	1.50	1.60	1.60
Demographics					
Age		0.99	1.00	1.01	1.01
Age^2		1.00	1.00	1.00	1.00
Race (White)$_a$		*			
African American		1.29**	1.16	1.19	1.16
Asian		1.15	1.11	1.12	1.20
Native American		1.79	1.58	1.45	1.43
Male		1.37***	1.35***	1.22*	1.21*
Education (< High School)$_a$		*			
High School and Vo. Tech.		0.70*	0.73*	0.74*	0.74*
College Degree or Some College		0.68**	0.72*	0.75*	0.76
Post-Bachelor's		0.57***	0.62**	0.67*	0.69*
Received Public Assistance 2002-2008		1.33***	1.23*	1.16	1.13
Currently Working (10+ hrs/week)		0.89	0.92	0.88	0.89
Income		1.00	1.00	1.00	1.00
No Insurance		1.38***	1.26*	1.16	1.15
BMI		0.99	1.00	1.00	1.00
BMI^2		1.00	1.00	1.00	1.00
Home and Friend Characteristics					
Number of Close Friends			1.02	1.04	1.04
Married and Living Together			0.73***	0.79**	0.79*
Place of Residence (Parent's Home)$_a$			*	*	*
Other Person's Home			1.27	1.18	1.17
Own Home			0.81	0.77	0.75
Group Home			1.23	1.14	1.15
Number of Roommates			0.98	0.99	0.99
Live in Same State as Last Interview			0.76***	0.74***	0.74***
Contact with Mother			1.02	1.02	1.02
Contact with Father			0.98	0.99	0.99
Number of Live Births			1.14***	1.14**	1.13**

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$, a = all variables in category jointly significant at p value indicated in row

Tables 5.1a and 5.1b contain the results of MELR on violent victimization. In Model 1, neither physical disability nor visible signifier of physical disability was significant. Sometimes the introduction of additional variables can cause non-significant variables to become significant, however this was not the case in the analysis presented, as disability was not significant in any model. Based on analysis, I must conclude that physical disability is not a direct pathway to violent victimization. Furthermore, since neither measure was significant at any point in analysis, there was no mediation effect observed.

This is highly surprising since this is an often cited relationship, and national statistics show a strong relationship between disability and victimization. There are several possible explanations for why this relationship did not manifest in the model. First, the relationship between disability and violent victimization may not hold true for those who are physically disabled, but may instead involve those with mental, developmental, and emotional disabilities. Second, there could be an age effect where this relationship does not exist for young adults. Third, there may be some bias introduced by the Add Health sampling techniques, whereby disabled persons who have been victimized are not a part of the sample. Fourth, there could be issues with how disability and victimization are measured in the Add Health sample, and coded in this dissertation. While I cannot do anything to address explanations one through three, I did attempt several different coding schemes to address explanation four. I ran the same models with disability measured as three dummy variables (no disability, moderate, serious) and with impairment at the time of survey administration (instead of lasting longer than a year). Neither of these resulted in the significance of the variables.

I also tried to code violent victimization as a count variable (with Mixed Effects Poisson Regression) and using only assault with a deadly weapon as an outcome. Again, these analyses did not affect the relationship between disability and crime. In the end, I must conclude that there just is not a relationship between disability and violent victimization for young adults. This does not support my first hypothesis, that disability acts as a pathway to violent victimization and that offenders target the disabled because they are perceived as lacking guardianship. Nor does it support my second or third hypothesis, as individual and neighborhood variables were unable to mediate a non-significant relationship.

Although disability was not significant in any of the models, there were several interesting patterns present in the final model of violent victimization. Only two demographic variables (male and most of the education measures) were significant in the final model. The sex effect is easily interpreted since males tend to be more likely to engage in crime, as well as become victims of violent crime in particular. Education is more complex and interesting, as all dummy variables were significant in the second model, and showed a linear relationship between years of education and a lower risk of victimization. This could occur because higher levels of education require greater levels of self-control, as education creates a stake in conformity, or because persons coming from high crime neighborhoods have lower levels of educational attainment. However, in the final model, college education itself had no effect on the risk of experiencing violence. The importance of education, and the relative lack of education attainment experienced by the disabled, will be thoroughly explored in the discussion section of this dissertation.

There were more home and friend characteristics variables that were significant than any other set of variables. Marriage and residential stability decreased the risk of violent victimization. This supports the idea that marriage changes routines and habits, limiting exposure to crime (Laub and Sampson 2003), while persons who do not change states are more likely to have continuity in their jobs and be "established" in life, suggesting higher levels of self-control. The place of residence variables were not significant on their own, but a Wald can be used to test their joint significance. A Wald test determines if the combined effect of the place of residence dummy variables, which are separate measures of one common factor, were simultaneously significantly different from zero. The test showed the variables were in fact jointly significant at the $p \leq .05$ level, meaning that all place of residence variables are treated as significant. Compared to living with one's parents, both living in another person's home and living in a group home increased the risk of violent victimization, while owning your own home decreased the risk. This shows how living arrangements have a large effect on routines and opportunities for crimes. This variable is also likely affected by marriage and transitions to adulthood, as many young adults who are on time with their transitions are getting married and buying homes in their late 20s and early 30s, while persons who are still living in group homes or living with friends are probably going out more, thereby encountering more opportunities for victimization (Felson 2006).

Finally, a one unit increase in number of live births increased the odds of violent victimization in the past year by 14% ($p \leq .001$). This was surprising, especially given the negative relationship between other lifecourse transitions (marriage, education, and owning a home) and violent victimization. One possible explanation is that respondents

with more children could be different than persons with only 1 or 2 children, and could be affecting this *OR*. If the measure was truly interval/ratio, then I would have considered including a squared term to test for this curvilinear relationship. Likewise, if the ordinal measure had fewer than 7 categories, or was not truncated, I would have considered a dummy variable approach.

Table 5.1b Odds Ratios from Mixed Effects Logistic Regression on Past Year Violent Victimization, Continued (N=4,664)

Variable (Reference Category)	(1)	(2)	(3)	(4)	(5)
Risk					
Offending History				1.07***	1.07***
Drug Use in Past Month				1.49**	1.49**
Physical Abuse				1.22	1.23
Sexual Abuse				1.12	1.13
Emotional Neglect				1.02	1.02
Angry/Hostile Personality				1.02	1.02
Neighborhood Context					
Concentrated Disadvantage					0.99
Adult Arrest per 1,000 (2007)					1.00
Percent Vacant Housing					1.57
Percent Foreign Born					0.89
Percent Hispanic					0.90
Density per Sq. Mi.					1.00
Proportion over 25 w/ High School Diploma					0.74
Income					1.00
Rural-Urban Commuting Area (Metro Core)					
Metro/Urban Commuting					0.81
Small Town					0.97
Rural					1.27
Log Likelihood	-2,355.09	-2,308.81	-2,284.40	-2,218.49	-2,211.60

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$

There were only two risk variables that were significant in the final model. A one unit increase in offending history increased the risk of victimization by 7% ($p \leq .001$), which suggests that not only do offenders find themselves in situations that

increase the danger of experiencing crime, but that this effect increases along with frequent offending. Drug use in the past month also increased the risk of violent victimization in the past year. This is the largest *OR* in the model and describes how the need for illegal, habit-forming substances pushes people into situations that greatly increase their risk of experiencing violence. Due to the temporal order of these questions though, it should be noted that drug use in the past month could also be the result of experiencing violent victimization earlier in the year.

Perhaps the most surprising pattern observed from the analysis was the complete lack of significance for neighborhood variables. Given the strong relationship between neighborhoods and crime in general (Sampson et al. 2002; Miethe and Meire 1994; Chainey and Ratcliffe 2005, Eck and Weisburd 1995; Short et al. 2010), one would think that this would hold true for the risk of violent victimization. It should be noted that the list of included neighborhood variables is not exhaustive in terms of what we know affects neighborhood crime rates, as there are no measure of disorder or collective efficacy. The most likely explanation for why neighborhood variables had no effect on crime was the unit of analysis. Census tracts are smaller than zip codes, but they are likely too large to be considered a true "neighborhood." Had a smaller unit of analysis been available, then perhaps I would have found more in the way of neighborhood effects on violent victimization.

SEXUAL VICTIMIZATION

Tables 5.2a and 5.2b contain the results of MELR on sexual assault – non-parent or guardian (hereafter referred to as sexual assault or sexual victimization). In Model 1,

the risk of sexual assault was 64% as likely ($p \leq .01$) for the disabled compared to the non-disabled, but having a visible signifier of physical disability was not significant. This suggests that offenders may know the physical disability status of the person they are offending against, and target the lower levels of guardianship represented by disability when they decide to attack. This trend reverses in Model 2, as visible signifiers of impairment are significant ($OR = 2.48$, $p \leq .05$), while disability status is no longer significant. As more variables were added to the regression equation, the *OR* for visible signifier increased to 2.97 and the significance level increased to $p \leq .01$ in the final model. This finding supports the idea that physical disability does in fact act as a direct pathway to sexual victimization, but only for disabled persons with a visible signifier of their impairment.

This was unexpected, since most sexual assaults are perpetrated by intimates or acquaintances (Planty et al. 2013; Sinozich and Langston 2014), who would already be aware of a person's physical impairment. Although there is no way to determine the nature of the victim-offender relationship from the Add Health data, we can still speculate as to why visible signifiers were significant in the final model, but disability itself was not. In the case of victimization by a stranger, who would have no prior intimate knowledge of the victim, then visible cues play a large role in informing the offender of who would be a likely target. In the case of victimization by an acquaintance or intimate, who should already be familiar with any physical limitations on the part of the victim, then visible signifiers may act as a constant demarcation of vulnerability; canes, crutches, and wheelchairs remind acquaintances of a person's disability and increase the temptation to offend. Additionally, visible signifiers may not

Table 5.2a Odds Ratios from Mixed Model Logistic Regression on Lifetime Sexual Assault – Non-Parent/Guardian (N=4,664)

Variable (Reference Category)	(1)	(2)	(3)	(4)	(5)
Disability					
Physically Disabled	1.64**	1.34	1.33	1.15	1.14
Visible Signifier of Disability	1.72	2.48*	2.55*	2.82*	2.97**
Demographics					
Age		1.00	1.00	1.01	1.01
Age^2		0.99	0.99	1.00*	1.00
Race (White)$_a$		**	***	**	*
African American		0.71**	0.60***	0.68***	0.75*
Asian		0.57	0.53	0.50	0.55
Native American		0.65	0.49	0.43	0.47
Male		0.15***	0.15**	0.14***	0.14***
Education (< High School)					
High School and Vo. Tech.		1.01	1.20	1.20	1.18
College Degree or Some College		1.13	1.24	1.21	1.18
Post-Bachelor's		1.03	1.13	1.22	1.22
Received Public Assistance 2002-2008		1.52***	1.35**	1.23	1.22
Currently Working (10+ hrs/week)		1.12	1.11	1.09	1.09
Income		1.00	1.00	1.00	1.00
No Insurance		1.26*	1.17	1.04	1.04
BMI		0.99	1.00	0.99	0.99
BMI^2		1.00	1.00	1.00	1.00
Home and Friend Characteristics					
Number of Close Friends			0.87**	0.89*	0.89*
Married and Living Together			0.69***	0.74**	0.76**
Place of Residence (Parent's Home)					
Other Person's Home			1.21	0.92	0.87
Own Home			1.11	0.84	0.80
Group Home			1.31	0.84	0.80
Number of Roommates			0.96	0.97	0.97
Live in Same State as Last Interview			0.74**	0.75**	0.76**
Contact with Mother			0.96	0.98	0.99
Contact with Father			0.93*	0.97	0.97
Number of Live Births			1.12*	1.09	1.09

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$, $_a$ = all variables in category jointly significant at p value indicated in row

act only as an indicator of physical vulnerability, in the sense of a decreased ability to fight or flee, but as a sign of emotional vulnerability. Persons with visible disabilities may require greater levels of daily assistance, and may have less social support. Acquaintances and intimates may take advantage of this greater need on the part of the disabled, and exploit it by coercing sexual favors from them, or by forcing themselves on someone who is dependent on their aid or friendship. Regardless of the precise mechanism, this is a troubling finding, and shows how persons with visible disabilities often have experiences that are very different from those with invisible disabilities.

As to why the inclusion of demographics switched the significance of these two measures of disability, and the introduction of more variables increased the effect size and significance of visibility, there is no clear answer. Perhaps once other individual and neighborhood characteristics are taken into account and pulled out of the error term, this more closely approximates the true relationship between disability, visibility of impairment, and sexual victimization. The fact that a visible signifier of impairment has the highest *OR* in the final model demonstrates how disability can transform a person's life. Given that the effect of visible signifiers increased as more variables were introduced into the model, again I must conclude that no significant mediation occurred.

As with violent victimization, there were other variables that had significant effects in the final model. African Americans were at a decreased risk for sexual victimization compared to Whites. Although the other race variables were not significant on their own, they were jointly significant at the $p \leq .01$ level. Asians and

Native Americans were also less likely to be sexually assaulted than Whites. Given that Whites are generally less likely to experience any form of victimization, it was unexpected that non-Whites were all less likely to experience lifetime sexual assault. Males were much less likely to be sexually assaulted than females (OR = 0.14, $p \leq .001$). This was expected, since sexual assault is one of the few crimes that females typically experience at higher rates than men (Truman et al. 2013), and since it has been suggested that men sexually assault women to enforce male hegemony (Cowburn 2005).

Home and friend characteristics played less of a role in sexual victimization than they did in violent victimization. The significance of number of friends in the final model showed how social support can reduce sexual assault. Friends can act as guardians and help keep persons from risky situations, or at least make potential victims seem less vulnerable. Similarly, marriage can affect routine activities that increase the risk of victimization. Married persons (theoretically, at least) are less likely to go out to bars or go looking for sexual experiences, which can easily escalate into sexual assaults when an offender decides to coerce or forcibly assault someone (Felson 2006). Living in the same state had a similar effect for sexual victimization as it did for violent victimization. This is likely related to the finding with regard to number of friends, as residential stability likely means you have more friends, who can act as guardians. Overall, although demographics and home/friend characteristics were important in the model, they did not have as large as an effect as they did in the violent victimization model. This reflects the differing nature of these two crimes; violence is a product of

daily contexts and routines, while sexual assault is more heavily affected by engaging in risky behaviors.

All of the risk variables were significant in the final model of sexual assault. Each of these variables could have an independent effect on victimization, but the best explanation is that all of these are related. Abuse creates psychological dysfunctions, including anger, depression, guilt, and shame, often leaving victims with long lasting post traumatic stress disorder (McIntyre and Widom 2011; White and Widom 2008;

Table 5.2b Odds Ratios from Mixed Model Logistic Regression on Lifetime Sexual Assault – Non-Parent/Guardian Continued (N=4,664)

Variable (Reference Category)	(1)	(2)	(3)	(4)	(5)
Risk					
Offending History				1.03**	1.03**
Drug Use in Past Month				2.04***	2.06***
Physical Abuse				1.35*	1.35*
Sexual Abuse				2.50***	2.55***
Emotional Neglect				1.19***	1.19***
Angry/Hostile Personality				1.04*	1.04*
Neighborhood Context					
Concentrated Disadvantage					0.97
Adult Arrest per 1,000 (2007)					1.00
Percent Vacant Housing					0.77
Percent Foreign Born					0.49
Percent Hispanic					1.95
Density per Sq. Mi.					1.00
Proportion over 25 w/ High School Diploma					0.27
Income					1.00*
Rural-Urban Commuting Area (Metro Core)					
Metro/Urban Commuting					0.99
Small Town					1.14
Rural					1.03
Log Likelihood	-1,945.25	-1,738.00	-1,711.26	-1,614.67	-1,612.16

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$

Desai et al. 2002; Widom 1999). These feeling may express themselves through self-medication and acting out (offending). Drug use and crimes to sustain habits often place persons into dangerous situations with unsavory persons, thereby increasing the risk of repeated revictimization (Jensen and Bromfield 1986; Eck and Weisburd 1995; Felson and Boba 2010). While risk may increase the odds of experiencing lifetime sexual assault, it needs to be stated, however, that these findings are not to be interpreted as suggesting that sexual assault victims are responsible for the crimes that are committed against them.

As with violent victimization, neighborhood factors had little impact on lifetime sexual victimization. Only one neighborhood variable, income, was significant, and it had a minor effect (OR=0.999993, $p \leq .01$). Again, this may be the result of how sampling was conducted or the fact that tracts are poor measures of a neighborhood. It may also be the case that unlike with predicting offending, victimization is more about offenders targeting individuals as opposed to operating in specific areas. It makes more sense that neighborhoods would have little effect on sexual victimization, since the ecology of this crime often places it in private residences, as opposed to street corners, but given the lack of significance in both models, we may need to rethink how we conceptualize the effect of neighborhoods on crime, and how this relates to the victim-offender relationship. This will be discussed in more detail in Chapter 7. Now that I have established that there is support for the idea that disability status acts as a direct pathway to sexual victimization, but not violent victimization, I will switch my focus to how disability can affect the relationships among the variables observed in the general model.

CHAPTER 6 – MODERATING EFFECTS ASSOCIATED WITH PHYSICAL DISABILITY

The two previous chapters addressed how the physically disabled differ from the non-disabled in terms of their personal and neighborhood characteristics, as well as if disability constitutes a direct pathway to victimization or if it is mediated by other forces. In this chapter, I explore my final research question: does disability moderate the effect of common predictors of violent and sexual victimization? Researchers often only explore interactions between variables when both are significant. Although disability status was not significant in the final model of either victimization analysis, this does not mean that disability does not exist, or that it does not affect many life outcomes, including criminal victimization. The t-tests conducted in Chapter 4 also suggest significant differences in the predictors of violent and sexual victimization by physical disability status. Determining which variables exert a significant effect on victimization by disability status in a multivariate model, as well as exploring the disparities in the power of significant effects, is necessary to understand how disability affects the lived experiences of persons with a physical impairment, and how they relate to the risk of violent and sexual victimization.

In order to test for potential moderating effects, I replicated the analysis from the previous chapter with a few small differences. I split the sample by disability status, in order to determine if there are different predictors for disabled and non-disabled persons in terms of the correlates of violent and sexual victimization. I then combined the outcomes of both models, and conducted Chow tests on significant variables. A Chow test is simply a way to determine if the difference between two coefficients is

significantly different from zero (Greene 2000), or to put it a different way, if the observed differences in the effect of a variable are significant across samples.

I only examined *OR*s that were significant in one or both models. If an *OR* was significant in both models, and was significant across models, then this means that the differences in *OR*s held across both models and that the effects could be directly compared. If it was not significant, then that means that this relationship was the result of sample fluctuations, and there was not a meaningful difference between the *OR*s in both models. If an *OR* was significant in only one model, but was significant across samples, then this means that the *OR*s were significantly different, even though the non-significant *OR* is still not considered significant; and that there was a meaningful difference between the two *OR*s, but it was only a significant finding for the group with initial significance. If there was no joint significance across samples, but there was significance in one model, then that means that it was only relevant for the significant group, and that there was no difference between groups.

Unfortunately, this process was not possible using MELR in STATA 11. Instead, I used Binary Logistic Regression (BLR), with FIPS set as the clustered error pattern. MELR is the ideal way to model these data, but using BLR with clustered error represented an adequate alternative (Agresti 2013), one that was necessary given the need to compare significance across models. As a result, there were some differences by analysis type, but these were small and in many cases only changed the *OR*s by a tenth or hundredth. I only present the final model for both forms of analysis, since splitting the sample removes the interest in mediation across models. I also had to omit several variables from multigroup analysis. Visible signifier was dropped because this

variable was limited to disabled persons. There was also insufficient variation for disabled persons who were Asian and disabled persons living in a group home, so they were removed from BLR analysis for the disabled.

VIOLENT VICTIMIZATION

Table 6.1a Comparison of Odds Ratios and Significance for Past Year Violent Victimization by Disability

Variable (Reference Category)	Disabled (N=233)	Non-Disabled (N=4,431)	Significant Across Samples
Demographics			
Age	1.01	1.01	
Age²	0.98	1.00	
Race (White)$_a$	**		**
African American	1.92	1.15	
Asian	---	1.22	
Native American	249.23***	1.07	
Male	1.92	1.22*	
Education (< High School)			
High School and Vo. Tech.	2.97	0.70*	**
College Degree or Some College	5.47*	0.71*	**
Post-Bachelor's	2.61	0.64*	
Received Public Assistance 2002-2008	2.01	1.16	
Currently Working (10+ hrs/week)	0.83	0.88	
Income	1.00	1.00	
No Insurance	2.56	1.01	
BMI	0.96***	1.00	**
BMI²	1.00***	1.00	**
Home and Friend Characteristics			
Number of Close Friends	0.83	1.05	
Married and Living Together	0.70	0.80**	
Place of Residence (Parent's Home)$_a$	*	**	**
Other Person's Home	22.22**	1.01	
Own Home	4.44	0.68*	
Group Home	---	1.10	
Number of Roommates	1.07	0.98	
Live in Same State as Last Interview	0.55	0.74***	**
Contact with Mother	1.11	1.01	
Contact with Father	1.03	1.00	
Number of Live Births	0.84	1.14**	**

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$, $_a$ = all variables in category jointly significant at p value indicated in row

Table 6.1a and 6.1b contain the results from BLR on violent victimization by disability status, which was carried out to determine if disability status moderates the effects of common predictors on violent victimization. Although race did not have a significant effect in the combined sample violent victimization model, it does have significance for disabled persons who are non-White. Due to joint significance within the disabled model ($p \leq .01$), African Americans were less likely to be the victims of violence, while Native Americans with a disability were 249.23 times as likely to experience violent victimization as disabled Whites. Race had no significant effect on the victimization of the non-disabled, but was jointly significant across models. This demonstrates that race is really only an important predictor of violent victimization for the disabled, and this is a finding that would have otherwise been lost had multigroup analysis not been carried out.

Non-disabled persons with a high school diploma and/or some vocational training were less likely to be violently victimized as someone without a high school diploma, but non-disabled persons with this same level of education were not significantly more or less likely to be victims in the past year. This finding was significant across samples, meaning high school education does not affect victimization for the disabled, but does for the non-disabled. For persons with a disability, having at least some college education **increased** the risk of violent victimization by 447%, while a college education **reduced** the risk of victimization by 29%. Clearly disability status greatly affected the role that education can play in increasing or decreasing violent

victimization. The fact that college education had such a different effect by disability status likely explains why this category was not significant in the general model.

BMI and BMI squared were jointly significant in the disabled model, but not in the non-disabled model. At low levels of BMI, this decreased its effect on violent victimization, but at higher levels of BMI, there was no effect. This finding was significant only for disabled persons, but was significant across samples. It is interesting that low BMI has a negative effect on violent victimization, but this effect is attenuated at higher levels. What's more interesting is that as with race, BMI was not significant in the pooled model in Chapter 5, but was significant for the disabled. This illustrates how disability creates its own pathways and correlates to victimization.

In terms of home and friend characteristics, there were several patterns of victimization that revealed themselves. The marriage effect was only significant for non-disabled persons, but it was not jointly significant. Although living with parents was associated with an increased risk of victimization, and disabled persons were more likely to live with their parents, the effect of place of residence was significant both within and across models. Disabled persons were actually at a higher risk of victimization when they moved away from home, while non-disabled persons were at the greatest risk when they lived in a group home or at another person's home. The *OR* for living in another person's home was extremely high for disabled persons (*OR* = 22.22, $p \leq .01$) compared to non-disabled persons (*OR* = 1.01). Additionally, owning a home was associated with a decreased risk of victimization for non-disabled persons, but was associated with a higher risk for disabled men and women. This shows the

importance of taking interactions into account, as disability status clearly affected what was previously seen as a protective factor.

The protective effect of living in the same state was only significant in the non-disabled model. The fact that this finding was significant across samples means that the effects of living in the same state differed by disability status, and that for the disabled (who have a higher mean rate of living at home), this does not protect them from violent victimization. Number of live births was also significant for only the non-disabled, and was also significant across models. This finding further complicates an already complex relationship. In the pooled model, as the number of live childbirths increased, so did violent victimization. The disabled were more likely to have a higher number of children, but this had no significant effect on the disabled. However, it does affect victimization for the non-disabled, and was significantly different across models. Apparently, a higher number of live births increases the overall risk of violent victimization, but only for non-disabled persons.

In terms of risk, offending was significant across models and associated with a higher rate of victimization for the non-disabled, but was not significant for the disabled, meaning that offending is only a risk factor for the non-disabled. Drug use, which increased violent victimization in the pooled sample model, and was experienced at higher rates for the disabled, was again only significant for the non-disabled. This finding was also significant across models. Percent foreign born, the only significant neighborhood variable, was found to increase victimization for the disabled but not the non-disabled. The size of the *OR* is quite surprising, and implies that for disabled

persons living in areas with a high foreign born population, the risk of victimization is extremely high.

Table 6.1b Comparison of Odds Ratios and Significance for Past Year Violent Victimization by Disability Continued

Variable (Reference Category)	Disabled (N=233)	Non-Disabled (N=4,431)	Significant Across Samples
Risk			
Offending History	1.02	1.08***	***
Drug Use in Past Month	0.85	1.52**	*
Physical Abuse	1.75	1.22	
Sexual Abuse	0.81	1.16	
Emotional Neglect	0.97	1.01	
Angry/Hostile Personality	0.95	1.03	
Neighborhood Context			
Concentrated Disadvantage	0.94	1.00	
Adult Arrest per 1,000 (2007)	1.00	1.00	
Percent Vacant Housing	7.61	1.32	
Percent Foreign Born	888.91*	0.65	*
Percent Hispanic	0.05	1.00	
Density per Sq. Mi.	1.00	1.00	
Proportion over 25 w/ High School Diploma	3.54	0.68	
Income	1.00	1.00	
Rural-Urban Commuting Area (Metro Core)			
Metro/Urban Commuting	1.23	0.81	
Small Town	0.72	0.95	
Rural	3.95	1.02	
Log Likelihood	-99.67	-2,8.45	

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$

Overall, multigroup analysis shows there are many differences in the predictors of violent victimization for the disabled compared to the non-disabled. Only education and place of residence were significant predictors in both models, and their effects were moderated by disability status. Depending on your level of physical ability, the protective factors and risk factors are quite different. It is also worth noting that both of these variables performed completely differently in each model. For the disabled, going

to college or leaving home greatly increases the risk of crime, but for non-disabled persons, education and owning your own home were associated with lower levels of victimization. One possible reason for this is that the lives of independently living non-disabled persons are very different from those of disabled persons, and that parents act as much better guardians for the disabled than non-disabled persons. This is an idea that I will explore in more detail in the discussion. Another interesting finding as a result of moderation analysis was that that the disabled model added significant variables, while the non-disabled model replicated the significant predictors of violent victimization, especially since there were significant differences in the means of many of these variables by disability status. This shows how what serves as a protective factor for the non-disabled may have no effect on violent victimization, while disability creates its own pathways to violent victimization.

SEXUAL VICITMIZATION

Two demographic variables had an effect that significantly differed by disability status. Race was jointly significant for the non-disabled, but not the disabled. Non-disabled African Americans, Asians, and Native Americans were all significantly less likely than Whites to be the victims of lifetime sexual assault by a non-parent or guardian. This finding was significant across samples. Compared to disabled women, disabled men had a much lower risk of lifetime sexual victimization. This finding was also significant across samples, which shows that although females were more likely to be victims of lifetime sexual assault regardless of disability. There was a 10 percentage point difference between disabled and non-disabled male coefficients. Marriage and

living in the same state as at the time of the last interview significantly lowered the risk of sexual assault for the non-disabled, but not for the disabled.

Table 6.2a Comparison of Odds Ratios and Significance for Lifetime Sexual Assault – Non-Parent/Guardian by Disability

Variable (Reference Category)	Disabled (N=233)	Non-Disabled (N=4,431)	Significant Across Samples
Demographics			
Age	1.26	1.01	
Age²	0.96	1.00	
Race (White)$_a$		*	*
African American	0.42	0.78	
Asian	---	0.58	
Native American	12.81	0.36	
Male	0.05***	0.15***	***
Education (< High School)			
High School and Vo. Tech.	0.82	1.20	
College Degree or Some College	0.93	1.21	
Post-Bachelor's	2.03	1.20	
Received Public Assistance 2002-2008	1.50	1.23	
Currently Working (10+ hrs/week)	0.73	1.13	
Income	1.00	1.00	
No Insurance	2.23	0.96	
BMI	0.95	0.99	
BMI²	1.00	1.00	
Home and Friend Characteristics			
Number of Close Friends	0.66	0.91	
Married and Living Together	0.89	0.72**	*
Place of Residence (Parent's Home)			
Other Person's Home	0.60	0.91	
Own Home	0.91	0.84	
Group Home	---	0.90	
Number of Roommates	0.91	0.98	
Live in Same State as Last Interview	1.41	0.75**	*
Contact with Mother	1.18	0.97	
Contact with Father	0.83	0.98	
Number of Live Births	0.98	1.08	

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$, $_a$ = all variables in category jointly significant at p value indicated in row

Risk played a major role in the original sexual victimization model, and did so here as well. Offending increased the risk of lifetime sexual victimization for the disabled and the non-disabled, and was significant across samples. Drug use, which had one of the highest *OR*s in the original model, significantly increased victimization for the non-disabled, but not the disabled. Disabled persons who had been physically abused were significantly more likely to be the victims of lifetime sexual assault than disabled persons who had not been physically abused, but physical abuse did not affect the risk of lifetime sexual assault for non-disabled persons. Sexual abuse had a significant effect on lifetime sexual assault by a non-parent or guardian for both the disabled and non-disabled. The fact that disabled persons who have been sexually abused are almost three times as likely to be sexually assaulted as non-disabled persons who have been abused is a staggering difference. Emotional neglect increased victimization for the non-disabled, but not the disabled.

There were two neighborhood variables that were significant for the disabled. As percent vacant housing increased, the risk of lifetime sexual assault greatly decreased for the disabled ($OR = 0.001$, $p \leq .01$). Similarly, as the proportion over 25 with a high school diploma in a Census tract increased, there was a great decrease in the risk of lifetime sexual assault for the disabled ($OR = 0.001$, $p \leq .05$). These variables did not affect the non-disabled. Percent vacant housing was significant across samples, but neighborhood education level was not. The fact that vacant housing actually decreased the risk of lifetime sexual assault for the disabled, and was significant across samples was very surprising because neighborhood variables had very little effect in the general model. Although I originally predicted that neighborhood variables would significantly

impact victimization, I did not expect to find that percent vacant houses in a neighborhood, which should theoretically increase crime, would reduce the odds of lifetime sexual victimization almost completely.

Table 6.2b Comparison of Odds Ratios and Significance for Lifetime Sexual Assault – Non-Parent/Guardian by Disability Continued

Variable (Reference Category)	Disabled (N=233)	Non-Disabled (N=4,431)	Significant Across Samples
Risk			
Offending History	1.11**	1.02*	**
Drug Use in Past Month	1.39	2.02***	***
Physical Abuse	6.48***	1.24	**
Sexual Abuse	7.33**	2.45***	***
Emotional Neglect	0.98	1.20***	***
Angry/Hostile Personality	1.03	1.04*	
Neighborhood Context			
Concentrated Disadvantage	0.94	0.97	
Adult Arrest per 1,000 (2007)	1.00	1.00	
Percent Vacant Housing	0.001**	1.10	*
Percent Foreign Born	9.43	0.37	
Percent Hispanic	10.94	1.87	
Density per Sq. Mi.	1.00	1.00	
Proportion over 25 w/ High School Diploma	0.001*	0.39	
Income	1.00	1.00	
Rural-Urban Commuting Area (Metro Core)			
Metro/Urban Commuting	0.44	1.00	
Small Town	2.10	1.00	
Rural	1.48	1.04	
Log Likelihood	-79.89	-1,510.04	

***$p \leq .001$, **$p \leq .01$, *$p \leq .05$

Multigroup analysis revealed several interesting patterns regarding disability status and sexual assault. There was more commonality in the predictors of sexual assault than violent victimization, but the effects still varied greatly. Sex, offending, and sexual abuse were all significant across models, and all had a significant effect in the pooled model. In the case of sex, we saw a greater difference in the risk of

victimization for disabled women compared to disabled men versus non-disabled women compared to non-disabled men. Offending and sexual abuse were both major factors in the victimization of disabled and non-disabled persons, but in both cases the risk associated with these variables was greater for the disabled, once again showing a moderating effect presented by disability. Physical abuse and percent vacant houses both acted as disability-specific pathways to victimization, while race, marriage, living in the same state, drug use, and emotional neglect affected only the non-disabled. The disparity in the number of unique pathways by disability status suggests that the behaviors and the characteristics of the non-disabled play a larger role in their victimization, while the risks for all disabled persons are more similar. One thing that is clear from the model is that disability status definitely creates different pathways to victimization, and these correlates (when shared with the non-disabled) almost always have a greater effect for the disabled. These differences will be discussed in greater detail in the next chapter.

CHAPTER 7 – DISCUSSION AND CONCLUSION

Although disability has been clearly linked to higher levels of violent and sexual victimization by official data, there has been little work to explain why or how this occurs. My overarching goal with this dissertation was to describe how disability directly affects victimization, and how physical impairment can alter the general predictors of victimization, resulting in indirect pathways that increase the risk of violence and sexual assault for persons with a physical impairment. Because there has been so little research on what factors specifically affect the disabled, apart from substance abuse, the focus on indirect effects was aimed less at testing a precise relationship between physical disability, demographics, home/friend characteristics, risk, and neighborhoods than serving as a baseline study that can highlight these associations for future research. In other words, I set out to see if disability itself was a distinct pathway to victimization, and if there was support for the idea that physical disability status can affect the overall predictors of violent and sexual victimization. Both of these goals were met, but there are still many questions about exactly how disability affects victimization.

This dissertation began by offering three different possible explanations for why the disabled have such high rates of violent and sexual victimization. The first hypothesis was that offenders view physical disability as a sign of vulnerability and decreased guardianship, creating a direct pathway to violent and sexual victimization. This hypothesis was partially supported, but only in the case of lifetime sexual assault by a non-parent or guardian, and only for physically disabled persons who used some kind of visible identifier of impairment, such as a crutch, cane, brace, or wheelchair.

The second hypothesis was that disability is strongly correlated with disadvantages that increase victimization, creating indirect paths to victimization. The fact that the disabled were less likely to be married and living together, had fewer sources of social support to draw upon, were less likely to make adult transitions, had lower levels of education, and had higher rates of abuse supported this idea that impairment places disabled persons into social and physical contexts that increase victimization for everyone, not just the disabled. However, there was no evidence that meditation occurred at the individual level – even when including multiple measures of disadvantage in the models predicting sexual assault, having a visible identifier of impairment was still strongly predictive of the risk of lifetime sexual assault. The third hypothesis, that poverty (or some other factor closely associated with disability) caused disabled persons to be clustered in low-income, high crime neighborhoods, thereby making the relationship between disability and crime the spurious byproduct of neighborhood effects, was also not supported by analysis. There were only a handful of neighborhood variables that were significant in any of the multivariate models, which was likely an effect of the unit of measurement in the Add Health data, as Census tracts are poor approximations of a neighborhood. Finally, I showed that disability status can greatly affect how "standard" predictors of victimization perform when only the disabled were considered, and that physical impairment created its own pathways to victimization. The significant independent variables identified in this dissertation can serve as a basis for more thorough examination of how something like the marriage effect (which is itself very complex and deserves a more complete treatment than was available in this manuscript) does not express itself among the disabled, even though it

is a general predictor of violent victimization, and the disabled are significantly less likely to be married. The remainder of this chapter discusses how direct and indirect pathways to victimization express themselves, policy recommendations based on analysis, and an appraisal of the merits of this dissertation.

DISABILITY AS A DIRECT PATHWAY TO VICTIMIZATION

As previously mentioned, disability status itself had no direct effect on either violent or sexual victimization, but having a visible signifier of impairment did greatly increase the risk of sexual assault by a non-parent or guardian. The fact that it was the visibility of certain physical impairments that affected crime supports the target characteristics theory of victimization – that motivated offenders actively choose targets that they feel will offer the least resistance or are less likely to report their victimization to police (Finkelhor and Asdigian 1996), and that disability acts as one such characteristic. This is important to note because physical disabilities that require the use of some kind of prosthesis are likely more severe, in terms of their ability to limit daily functioning. It is highly improbable that persons who use an aid could forgo the use of these items, even if it meant limiting one's risk of sexual assault.

The term "visible disability" is difficult to clearly define and quantify, because so many impairments contain an element of visible difference (Matthews and Harrington 2000). An ambulatory disability can be considered visible if it involves the use of a prosthesis, or if it involves a limp or even a noticeable stooping of the back. Deformities and the loss of limbs/digits can also be considered visible, but not all of these impairments significantly limit daily functioning. Even some sensory disabilities

contain visual elements. Because of the limitations of the disability variables in the Add Health data, only ambulatory disabilities were included in analysis, but the supplemental inclusion of the use of some form of aid in daily living and mobility helped serve as an adequate proxy for visibility. While the focus on use of aids does exclude some visible ambulatory disabilities (a limp, for example), this approach does reflect how we typically think of physical disability – as a condition requiring an aid that clearly identifies who is and who is not impaired (Matthews and Harrington 2000). What is most interesting about the relationship between visible identifiers and victimization is that what could be considered a sign of vulnerability that increases victimization can also be perceived as a weapon (in the case of a cane or some braces), or as a source of empathy. The fact that visible signifiers significantly predicted a high risk of lifetime sexual assault demonstrates how society, and offenders in particular, view impairment. For many, the idea that witnessing a young adult in a wheelchair, using a cane, or wearing a brace would elicit a criminal response on the part of someone is unbelievable. It is tragic when impairment strikes a young person, and the knowledge that this person will have difficulties with tasks that most people take for granted in many ways should serve as a protective factor. But it clearly does not.

The issue of visibility also raises concerns about why offenders target disabled persons who use aids, and what this says about how we as a society view disability. When a disability is acquired, be it at birth or later in life, this fundamentally changes how a person is perceived. Non-disabled persons think of the disabled as sheltered, naïve, helpless, asexual, and lacking agency (Robillard and Fichten 1983; Beckett 2004). American culture is not always accepting of difference, and often seeks to

punish it directly, either by encouraging the victimization of the deviant or by not offering the same protection of law to persons deemed deviant (Schurr 1984; Zhang et al. 2001). The fact that visible physical disabilities predict very high odds of sexual victimization is not a random occurrence; it is the product of stigmatizing and segregating disability. Disabled persons often do not attend the same schools as the non-disabled (Lewis 2014). They also do not work in the same type of jobs, and do not have the same marriage experiences as the non-disabled (Charles and Stephens 2004; Richardson 1994; Taleporos and McCabe 2003). This reifies the idea that disability equates to difference, and dehumanizes the disabled, making it much easier to see a young person in a wheelchair as a target instead of a person who has already endured so much hardship in life. Contact and social support are the only things that can reverse how the disabled are perceived and treated.

One final issue regarding the direct effect of physical disability on criminal victimization is why visible signifiers had a significant effect on sexual victimization, but not violent victimization. The contexts, opportunity structures, and target selection processes of violent and sexual victimization greatly differ (Truman et al. 2013; Planty et al. 2013; Sinozich and Langston 2014). Violent crime victims are more likely to be male, while females are at a much greater risk of experiencing sexual assault. Additionally, a greater percent of violent crimes are perpetrated by strangers, while victims of sexual crimes tend to be better acquainted with their victimizer. The scene of a crime also varies by type, with violent crimes, which take a relatively short time, being more likely to occur in a (semi-) public space, while sexual assaults usually involve a more private location. These differences may explain why disability was a

direct pathway to sexual victimization, but not to violent crime. If the disabled have different routines than the non-disabled, due to the lack of handicapped accessible buildings, limits to mobility, or an awareness of how impairment is a social liability, then they may be less likely to be in public places that encourage violent crime. This tendency to stay in may increase sexual victimization because they tend to stay in private residences that are more amenable to sexual assault by acquaintances and intimates. A lack of marriage options or sexual partners could also force a disabled person into situations where they have a greater risk of victimization because the isolation of disability can outweigh concerns about safety.

While all of this may explain why disability in general could act as a risk factor for sexual assault, it does not explain why visibility was a factor when disability itself was not. In the case of stranger sexual assault, a visible signifier can act as a signal of vulnerability upon which offenders choose to act. This is a simple, straightforward explanation that is based on a target characteristics approach. We tend to think of physical disability as something we can see, so offenders may only "notice" disability when it is accompanied by a crutch, a cane, a brace, or a wheelchair. In the case of intimates, visible signifiers may also act as a greater risk factor than disability status because they serve as constant reminder of impairment, which acts as a push factor for acquaintances who spend time in relative private with someone with a disability. The observable vulnerability may present a temptation that acquaintances are more likely to act on than less visible impairments, which also can limit guardianship of the self. In either case, this demonstrates how when disability is made more salient, the impaired pay a high cost for something that is outside of their control.

MEDIATION AND MODERATION: DIVERGENT PATHWAYS BY DISABILITY STATUS

MELR is a computationally demanding procedure, and in order to determine the precise magnitude of mediation it requires a detailed model based on *a priori* research. The effect of physical disability on crime is a relatively understudied area, and there simply was not enough research on what factors significantly affect the violent and sexual victimization of disabled young adults age 25-34 to construct the kinds of models needed to establish the precise relationships between all relevant variables prior to completion of this dissertation[9]. One of the strengths of this dissertation is that it serves as a valid baseline that provides evidence of where researchers should look for indirect/mediating effects. Although there were many variables that had a significant effect in one of the various models, the best way to understand all of these results is by focusing on the common features of these variables instead of specifics. Intersections with disability, transitions/daily living contexts, and risk all played the greatest roles in victimization.

INTERSECTIONS WITH DISABILITY

One of the key findings of this analysis, and important avenues for future research in this area, involved the intersections with race, sex, and social class. Sex had a significant effect on both violent and sexual victimization. Males experienced more

[9] I did carry out several simple BLR, Ordinary Least Squares, and Ordered Logit regressions to test how the significant variables in the violent victimization and sexual victimization model were predicted by disability, as well as how the variables in the model affected the odds of being disabled. Disability status significantly predicted higher odds of drug use and emotional neglect, while it predicted lower odds of being physically abuse and education. Disability was predicted by being on public assistance, not working, low levels of income, emotional neglect, feeling angry, and concentrated disadvantage. These analyses were not included in this dissertation because more work needs to be done to establish temporal order before mediation analysis can be carried out.

violent crime in the past year, but much less lifetime sexual victimization than females. Disabled females, however, were further disadvantaged relative to non-disabled females when it came to lifetime sexual victimization, as sex significantly increased the risk of victimization compared to disabled males, non-disabled males, and non-disabled females. Clearly disabled women make attractive targets, likely because women are already a target for sex offending. The best way to explain this finding is that disabled women lack the same (perceived) ability to fend off attacks, and that disabled women are often considered asexual or possessing less sexual agency than non-disabled women. This can reduce restraint in offenders who feel they can more easily justify their crimes because they see the victim as not a "normal" woman; as someone dehumanized by their impairment. Race was a significant predictor of violent victimization for the disabled, but not in the general model or for the non-disabled. This suggests that sex/race intersections with disability have a strong negative effect for the disabled. Disadvantage tends to have a multiplicative effect, and persons lower on the matrix of domination tend to pay for further departures from what is considered "normal" in a hegemonic society (Collins 2000). One exception to this pattern was the effect of race on sexual victimization. Disabled persons were more likely to be African American than their non-disabled peers, and non-Whites had a significantly lower risk of lifetime sexual victimization. It is unclear why this pattern emerged, but it certainly does support the idea that there is a need to examine how race and gender intersections with disability, and how this affects victimization. The lives of Black women with a disability are likely much different than those of Black women without an impairment, never mind the lives of non-disabled White males. Only by paying attention to how our

identities and statuses affect daily life can we understand how these factors greatly shape our outcomes, including the risk of crime.

TRANSITIONS

Although education was listed under demographics, it is best understood as part of a general pattern that involved the differential effects of transitions by disability status. There was a negative linear relationship between education and violent victimization in the general model, except for the effect of college. In multigroup analysis, it was shown that college education significantly predicted higher rates of victimization for the disabled, but lower rates for the non-disabled. Having a high school diploma also decreased the odds of violent victimization in the past year for the non-disabled, but no such difference was observed in the disabled. The fact that college performed in opposite ways by disability status is something that needs to be studied further because college is something we often consider as a gateway to success and independence, not as something that should increase victimization. Additionally, more attention needs to be paid as to **why** the only significant effect of education on crime for the disabled was to increase it, while it reduced victimization for the non-disabled. The most likely explanation is that disabled persons are targeted on college campuses, leading to subsequent victimization in the future. More information on why education is a risk factor for the disabled is necessary to help more physically disabled persons transition into higher education, increasing their access to good jobs, higher incomes, and safer neighborhoods. Education is also likely linked to many of the home/friend context variables that had an effect on violent victimization, and a lack of education

may serve as a barrier to the protective effects offered by marriage, number of friends, and more positive experiences when moving away from home.

No other group of variables had the same effect on violent victimization as home/friend characteristics. Marriage and owning a home were both significant protective factors from victimization, and both only significantly decreased victimization for the non-disabled. As with college education, owning a home significantly protected the non-disabled from harm, but was not a significant predictor of victimization for the disabled. Living in another person's home increased the risk of crime for both groups, but there was only a slight increase in the risk for the non-disabled, but the disabled were placed at great risk when they lived with someone other than their parents, be it owning their own home or living with another person. Both marriage and owning a home are considered major lifecourse transitional milestones, and both should decrease victimization regardless of disability status. However, the fact that these did not impact the lives of the disabled, or in the case of leaving home had a negative impact on the risk of violent victimization, speaks to the real difference in the routines and lives of the disabled compared to the non-disabled.

The lack of significant protection from victimization provided by transitions may result because the disabled are seen as poor marriage partners (in part due to low levels of educational attainment), and may not transition at the same rate as non-disabled persons, or may not have the same quality of transitions. In addition to selection/education removing the positive effect of transitions from the disabled, marriage and home ownership may also have a different effect on the routines that can increase the risk of violent victimization. Marriage certainly has the ability to change

routines from risky to more prosocial (Sampson and Laub 1993, Laub and Sampson 2003), but disabled and non-disabled single persons may not experience being single in the same way. It is rare to see a person in a wheelchair at a club or singles bar, and the fact that disabled persons are both more likely to live at home and may have fewer funds to spend at bars could keep them at home more, limiting their risk of violent crime. Likewise, differences in lifestyles and population heterogeneity may enter the picture where place of residence is concerned. For many persons age 25-34 without a disability, living at home may denote arrested development, low self-control, or other factors that are associated with risk that can increase crime, but for the disabled it means a greater need for care/financial assistance. Independence is something that decreases victimization for the non-disabled, but has a very different effect when we look at only the disabled because it means less guardianship from others. Living in the same state may also represent a difference in the life chances and lifestyles of disabled and non-disabled persons. For disabled persons, who are significantly more likely to live in the same state as they were during the last survey administration, this may represent staying at home or being stuck in the same town due to a need for care or other lack of ability to leave, whereas for the non-disabled this may indicate being settled and established.

The relationship between childbirth, victimization, and disability is another transition that needs to be further examined. As the number of live births (or live children fathered) increased, so did the risk of violent victimization. The disabled had a higher mean number of live births, but the effect of childbirth was only significant for the non-disabled. As I mentioned earlier, I believe that the difference in means on this variable may be tapping into impairment caused by childbirth as well as perhaps a

curvilinear relationship where having too great a number of live births is a proxy for low self-control (via a lack of contraceptive planning), especially given that the mean age of the Add Health sample was just under 30, which is not a time when we expect persons to have a high number of live births. It is also quite possible that a sex effect is taking place here that only an intersectional approach will properly capture, as childbirth could decrease victimization for women, but increase it for men. Further exploration of this variable and the theoretical reason why childbirth, which is a lifecourse transition that should reduce victimization by changing routines, is needed. It is clear that more research needs to be carried out on how the disabled transition, how this affects a change in their routines relative to the non-disabled, and if there are any selection effects presented by other variables that need to be taken into account before we fully understand how the path to adulthood is so strongly affected by disability status.

RISK

Risk was another area that revealed substantial differences between the disabled and non-disabled. Offending history and drug use were both significant in the general model of violent victimization, yet these effects were only significant for the non-disabled. Although crime and drug use have been shown to increase the risk of victimization by putting offenders in situations where crime is more likely to occur (Schreck et al. 2002), apparently the kinds of crimes committed by the disabled do not carry the same risks. Similarly, the fact that drug use was significant for the non-disabled, but not for the disabled suggests that perhaps disabled persons use drugs in more secure locations (such as at home), or that their substance use is less recreational

and more medicinal, leading to a reduced amount of time in bars or alleys. The lack of significance of any risk factors on violent victimization also shows how important disability status is in determining criminal victimization, since the risky behaviors examined here have no effect for the physically disabled.

Risk played a greater role in the lifetime sexual victimization of the disabled than it did for violent victimization in the past year. Offending history and sexual abuse were significant for both groups, but risk had a greater effect for the disabled. Substantively, this suggests that disability does have a moderating effect on common predictors of sexual victimization, and that offenders are more likely to prey on the deviance of offending or the emotional vulnerability of living with abuse when someone is disabled. Disabled persons were also affected by physical abuse, but the non-disabled were not. Non-disabled persons were affected by drug use and emotional neglect. Although the non-disabled were affected by more risk factors than the disabled, the fact that the magnitude of risks for the disabled was so much higher demonstrates how risk is a very serious concern for the disabled. Despite the fact that non-disabled persons have more behaviors that can increase the odds of experiencing lifetime sexual assault, when a disabled person offends or (especially) when they have a past trauma in their lives, this exponentially increases their risks in a way that does not happen for the non-disabled.

NEIGHBORHOODS

At the outset of this dissertation, I delineated how disability was associated with poverty and disadvantage (at the individual level), and how this could lead to the

geographic concentration of disability in low-income areas, which in turn could explain away the effects of disability on victimization risk because neighborhoods have such a strong effect on criminal offending. This relationship never materialized in the analysis. Although there were a few neighborhood variables that were significant in each model, there was not the predicted dominance of these variables, relative to individual-level variables. In fact, home/friend characteristics and risk dominated the findings. One way to explain this lack of any neighborhood effects is that it matters less *where* one lives than *how* and *with whom*. If criminal offending is heavily influenced by an excess of opportunities combined with a lack of guardianship, then it would make sense that place of residence, marriage, and familiarity with the area would be more important than the number of persons receiving public assistance or joblessness rates. Spouses, parents, and friends can all help attenuate the effects of living in a high crime area by monitoring a person's actions and ensuring their well-being. A second explanation would be that although crime tends to geographically cluster in disadvantaged neighborhoods, ecology may not work the same way for victimization. Persons residing in high crime areas may take steps to guard themselves from victimization, such as staying in at night, while persons from outside the neighborhood come to disadvantaged areas for drugs, prostitution, or other risky behaviors and end up being victimized. A third explanation for the lack of significance of neighborhood variables in the models is that Census tracts make poor proxies for what really is a "neighborhood."

Census tracts are much larger and more populated than Census block groups, which themselves may not represent what really constitutes a true neighborhood (U.S. Census Bureau 2010). Similarly, most studies that include geographic variables involve

only one city and are not nationally representative. While being nationally representative constitutes a strength of the present study, prior work on ecology and crime may depend on having the direct comparison between persons sharing the same general lived environment, but with vastly different characteristics of their neighborhoods. Due to the strong relationship between neighborhoods and crime (Sampson et al. 2002; Miethe and Meier 1994; Bruce 2000; Sampson et al. 1997), much of which has been derived from studies with more geographically specific neighborhood variables (e.g. Chicago), the fact that I used Census tracts instead of block groups or neighborhoods is the most likely explanation for why neighborhoods did not exert a strong effect, and suggests the need for further study. It should be noted, though, that the other possibilities do constitute plausible explanations, but there is no way to tell how neighborhoods, victimization, and home/friend characteristics are truly related until closer approximations to neighborhoods are utilized.

POLICY RECOMMENDATIONS

The overall results from analysis revealed that disability affects the violent and sexual victimization of young adults, and suggests several ways to help limit the victimization of a population that is already disadvantaged in so many ways. Because disability was only a direct pathway to lifetime sexual victimization, and it was only disabled persons with visible signifiers that created this direct pathway, the most straightforward way to remove this direct pathway is to make all impairments invisible or reduce physical disability. Certainly medical advances in recent years have helped greatly with this, and unlike other statuses that have increase the likelihood of being a victim of certain crime such as race, gender, or sexuality, with disability there exists the

possibility (and willingness) to move from disadvantaged to advantaged status. Many disabled persons would love nothing more than to be free from a wheelchair, brace, or cane. Modern medicine is quite far away, however, from curing many causes of physical limitations or eliminating the need for prostheses and aids. This is also a remedy that shifts the blame from offenders to victims, as a crutch is in no way an invitation to drug a person's drink, coerce them into sex against their will, or use violence to violate a person.

Ultimately, the decision to offend against a disabled person rests with the offender. The issue then becomes how to change the perception of the disabled in a way that no longer equates impairment with vulnerability. Regular contact beginning at an early age is the best way to accomplish this, as it humanizes persons with an impairment instead of reifying the idea that physical disability is a fundamental marker of difference. Reducing the perceived difference between disabled and non-disabled persons begins in childhood. Children with disabilities should be mainstreamed instead of being segregated in special education classes. When non-disabled children grow up without any meaningful contact with children with limitations, all this does is prove to them that they are different and less deserving of being treated as normal. Contact theory (Allport 1954) states that prejudice can be counteracted when persons who are different are brought together and established as equals, who must cooperate towards a common goal, under the guidance of institutions. Early childhood education is ideally situated to address how contact can reduce prejudice because all students are considered equal, and many elementary educational tasks require cooperation. Contact has been shown to decrease the feelings of difference and inferiority on the part of students who

regularly interact with special education students (Crowson and Brandes 2014), proving that mainstreaming youths leads to far better outcomes than segregation.

Studies show that educators, high school students, and community members who come from politically conservative backgrounds are more likely to oppose the inclusion of disabled students and are more likely to have negative attitudes towards the disabled (Brandes and Crowson 2009; Brandes and Crowson 2010; Crowson et al. 2013; Bustillos and del Prado Silván-Ferrero). These attitudes result from viewing the disabled as not a part of their same "in-group," and perceiving any resource allocation as a direct threat to themselves. Anxiety about relative group status and the perceived threat presented by difference can best be addressed when children are young and have not established any ideologies associated with social dominance or right-wing authoritarianism. This would allow youths to perceive the disabled as more like themselves instead of as outsiders. My hopes are also that by focusing on how exclusion affects victimization, something which should not be perceived as a desirable finite resource, that this can change how conservatives view the disabled, since the real threat involving this group is not that they will steal resources, but that their segregation presents a tangible risk to the well-being of the disabled.

Contact and integration can also help decrease gaps in access to social support or adult transitions that decrease the risk of victimization. Due at least in part to educational segregation, the disabled have low levels of educational attainment, hurting them in terms of income and marriageability. The arrested development of disabled persons and the limits this places on their ability to make adult transitions can increase victimization, or at least deny them the opportunities to take advantage of protective

factors that lower the victimization risk for the non-disabled. Physical impairment, when separated from the social elements of disability, certainly does limit financial achievement and can make many potential partners shy away from the responsibility of caring for someone, but this effect is definitely increased by limiting contact between persons with different levels of ability. Disabled persons need to be treated as "normal" in order to gain access to the same kinds of resources and supports as non-disabled persons.

Finally, in order to reduce the direct and indirect effects of physical disability on violent and sexual victimization, we need to increase access to social support to counteract some of the negative adaptations to impairment. Whether a disability is present at birth or is acquired later in life, it is difficult to come to terms with the real, physical limitations that one experiences, and the social costs of disability are just as difficult, if not more so, to deal with. Both physical and social adjustments to living with an impairment can cause the disabled to lash out or feel isolated. All of these complex, pent-up feelings can lead to negative coping mechanisms that may lead to drug abuse, offending, or can strain sources of social support. This is why it is important for disabled youths and adults to have access to therapy in order to help them come to terms with their feelings and create sources of support that can counteract any self-destructive tendencies they experience. Disabled persons need to be treated with respect and understanding, but at the same time also demand that they be treated as equals to non-disabled peers. It is the job of medical professionals and therapists to make themselves available, and more sensitive to the fact that disabled persons do experience hardships and limitations that are unique, but that they ultimately do not

want to be viewed solely as a medical condition. Everyone needs support in their lives, from their bosses, partners, peers, and even acquaintances. Though the disabled often require more care, social support and assistance are just as important, and can help an already fragile, disadvantaged person avoid further harm.

WEAKNESSES AND STRENGTHS OF THE PRESENT STUDY

This dissertation has several weaknesses that must be addressed. As previously mentioned, although I discuss the indirect effects of physical disability on victimization, I did not conduct any mediation analysis to determine the extent to which factors such as marriage, place of residence, and education are affected by disability, and therefore alter the relationship between impairment and crime. The primary reason this analysis was not carried out is because there was insufficient literature on these subjects, and that the factors related to victimization are also affected by disability. Additionally, multiple waves of data would have been needed to establish temporal order, and many of the measures changed in phrasing/measurement between waves, making this extremely difficult. This dissertation helps to fill this gap in the literature and serves as a platform for future studies of how disability selects for specific characteristics that increase violent and sexual victimization.

Another weakness that was previously addressed was the unit of measurement used for neighborhood variables. Census tracts are poor representations of neighborhoods, and this study suffered because of it. This limitation was due to the structure of the available data, and represented the best measures of neighborhood conditions provided by Add Health, who are concerned with the increased potential for

re-identification that accompanies smaller geographic units. Add Health also does not collect data on physical/social disorder or collective efficacy in neighborhoods, both of which have been shown to greatly affect concentrated disadvantage and crime (Morenoff et al. 2001; Markowitz et al. 2001; Sampson and Raudenbush 1999; Sampson and Raudenbush 2004). Hopefully a data set can be found that contains disability status along with a complete battery of neighborhood measures collected at a smaller unit of measurement.

There are several other ways the variables in the Add Health data limited this dissertation. First, the measure of physical disability does not include medical categorizations or other details on the type of disability experienced by a respondent. It does match the definition of a physically limiting condition by using simple ways to judge range of motion, but more information would have helped to separate disability into more meaningful categories than impaired in daily living or not. Similarly, even though the disability measure was separated into moderate or severe difficulty in daily tasks, I used a binary measure of impairment. This was due to the small number of disabled persons in the Add Health sample, and a need to retain as large a focal group as possible. In spite of this, I still feel confident that for young adults, a basic measure of having any limitation in common movements and range of motion (which has persisted for at least one year) does constitute an adequate measure of physical disability, especially since this is a point in the lifecourse where most young men and women enjoy a high level of athleticism and physical ability. Likewise, there were no measures of cognitive/intellectual, emotional, or sensory disability available in the Add Health data. Cognitive/intellectual disabilities have the highest rates of victimization (Harrell

2014), and are also linked with higher rates of criminal offending (Holland et al. 2002; Simpson and Hogg 2001). One avenue for future research, assuming a data set can be found with a more thorough inventory of disability measures, is to test how physical disability differs in its effects on crime compared to other forms of disability, such as cognitive.

The victimization variables also had some problematic aspects to them. As I previously noted, there was no way to tell if each victimization measure was an independent act or occurred simultaneously. This forced me to reduce the dependent variable to binary instead of looking at the number of offenses a person experienced. A binary measure is certainly an adequate way to approach victimization, since just one instance can have a range of mental, physical, and financial consequences, but the relationships observed may have been different if repeat victimization had also been examined. Finally, although I was able to control for the temporal order of physical disability and violent victimization by limiting the disabled population to persons suffering from an impairment for over a year, and the violent victimization items all asked about respondent experiences in the past year, this was not possible with sexual assault by a non-parent/guardian. This was especially disappointing because sexual victimization was the only model to show a direct effect of disability. Wave IV was actually the first Add Health wave to include non-parent/guardian sexual victimization measures. Hopefully future waves will ask these questions in the same manner as the violent victimization items. Despite these weaknesses, however, this dissertation has many strengths.

First, as discussed at the outset of this dissertation, there has been very little study of why the disabled have such high rates of victimization. No study to date has combined demographics, home/friend characteristics, risk factors, and neighborhood conditions to describe how physical disability differs across individual traits and living contexts. Many of these variables have never been explored in terms of disability and victimization. Results from analysis show how important home/friend characteristics are to preventing victimization, and how the effects of education, marriage, and place of residence vary greatly by disability status. The use of a t-tests to describe bivariate group differences in the means of variables related to victimization, multilevel modeling including an array of predictors, and moderation analysis to show how disability creates its own pathways to victimization all represent great strides in the study of disability and victimization. Prior work on the victimization of the disabled has only focused on simple statistics related to between-group differences in victimization. This study went beyond that by focusing on how disability can lead directly to crime, as was the case with visible signifiers of impairment and sexual assault, and how group differences by ability level paint a very different picture of the predictors of victimization. The use of two different forms of victimization (violent and sexual) also is a strength of this study, as the pathways to victimization varied greatly by crime type and level of ability. Different crimes have distinctive contexts and ecologies. This dissertation demonstrated how we need to consider different factors when we discuss violent or sexual victimization, and how disability interacts with these factors creating divergent pathways to victimization.

Another strength of this dissertation was that although there were some limitations with the data, this is one of the first studies of disability and victimization that uses nationally representative data. Many studies of the disabled use convenient samples, and are performed by rehabilitation specialists. While this approach is definitely appropriate and can focus on the needs of disabled populations, especially those who acquire a disability later in life and need assistance adjusting psychologically and financially, this builds selection into victimization models. Rehabilitation centers are more common in larger cities (Ispen et al. 2014; Goe and Ispen 2013), thereby limiting access to rural persons with an impairment. Additionally, there is likely a difference in the types of persons who use vocational rehabilitation services and those who do not. Using nationally representative data helps to create a more robust sample of the disabled because survey administrators traveled to the homes of the disabled and did not rely on participation with an agency that many persons with a disability do not interact with, thereby capturing a greater range of persons who have a physical limitation.

Likewise, many studies of disability in general use elderly populations, because disability increases with age. This limits the conclusions drawn from these reports because disability can occur at any point in the lifecourse, and the experiences of a person with an impairment greatly vary by age at onset. This is especially true of the relationship between disability and crime, which is much more common for youths and young adults (Harrell 2014). This study addresses this issue by focusing on young adults, which also allowed for greater study of how lifecourse transitions were affected by disability, and how this affects the risk of crime. Lifecourse transitions had a major

impact in the analyses, and supported the idea that moving away from home, marriage, and educational attainment all serve as protective factors for the non-disabled, but these benefits were not present for the disabled. Clearly the transition to adulthood involves different risks of crime for the disabled than the non-disabled, and these findings highlight the need for more studies on how the disabled transition, and what can be done to make the lives of disabled young adults more like those of their non-disabled peers.

FUTURE DIRECTIONS FOR RESEARCH AND CONCLUSIONS

This dissertation serves as a platform for several future studies. The fact that disabled women were much more likely to be sexually victimized in their lifetimes when compared to non-disabled women, or men of any disability level, combined with the significance of race in the relationship between disability and violent victimization, speaks to the need for further examination of intersections with disability. Physical impairment may affect men and women very differently in terms of their pathways to victimization, as can race. For Whites with a disability, this may greatly affect the correlates of victimization because it means moving from an advantages status to a disadvantaged one. This may also mark a shift in their education and financial attainment, possibly making their neighborhoods more similar to non-disabled non-Whites. For racial minorities and for women, adding an additional layer of social disadvantage may intensify the effects of being disabled. There needs to be further study on these intersections in order to determine how disability affects other statuses in the matrix of domination. Intersection analysis will also be aided by further study of how disability affects selection into marriage, education, and place of residence. Now

that there is evidence of what home/friend characteristics and transitions affect the disabled, more rigorous models can be constructed to test for the characteristics that are predicted by disability, and how these can mediate the effect of disability on victimization. Both of these research goals can be accomplished with Add Health data. The linked wave structure of Add Health also makes it possible for intense analysis of the predictors of disability over the lifecourse, and how timing affects transitions. Time series analysis would go a long way toward reconciling some of the issues with temporal order that were present in this general examination of disability and victimization, while also providing a clearer understanding of how disability and disadvantage are coupled.

Although the Add Health data is nationally representative and is one of the few large data sets that includes measures of physical disability, neighborhood characteristics, and victimization, it does have several disadvantages which I discussed earlier. If another data set can be found or constructed, there are several research questions that were generated by this dissertation. First, how does type of disability affect the risk of victimization? There is a real need to compare the risks associated with physical, cognitive/intellectual, emotional, and sensory impairments in order to better inform medical and therapeutic professionals on how to limit harm to the disabled. Although neighborhoods did not have a large effect on victimization in this study, inclusion of better representations of neighborhoods could change this. Neighborhood effects cannot be completely ruled out until better measures are acquired. Likewise, because there is evidence that disability concentrates geographically, and that this has an effect on crime that is independent of concentrated disadvantage and

disorder (Bones and Hope 2014), we need to see if individual-level predictors of victimization vary when disability concentration is taken into account, and if this has a different effect by disability status. This would require a data set with individual-level data and real geocodes that can be combined with Census data on neighborhood disability concentration. Evidence that disability concentration increases crime for everyone, or harms only the disabled, would be a great benefit to urban planners and disabled care facilities.

Although official crime data show that criminal victimization rates for the disabled are much higher than the non-disabled, the relationship between physical disability and crime is much more complex. A functional limitation can act as a direct correlate of victimization, or it can act indirectly by affecting transitions and risky behaviors. Disability is only becoming more common, and steps need to be taken to reduce the disadvantages and negative events that the disabled experience. By highlighting how disability affects violent and sexual victimization, this dissertation has taken a step in that direction. We now know that visibility of physical disability affects sexual victimization, and that disability status interacts with demographics, transitions, and risky behaviors to create very different pathways to victimization. The next step is to better map out these general factors, and help decrease the costs of difference for the disabled.

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