Summer 7-16-2020

Victimization Amongst People with Mental Disorders: What Factors Influence Resiliency?

Michelle Harris

ABSTRACT

VICTIMIZATION AMONGST PEOPLE WITH MENTAL DISORDERS: WHAT FACTORS INFLUENCE RESILIENCY

By

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AUGUST, 2020

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Scholars have consistently shown that people with mental illness are at an elevated risk for victimization experiences when compared to their non-disordered counterparts (Goodman et al., 2001; Hiday et al. 1999; Hiday et al., 2002; Silver, 2002; Teplin et al., 2005; Walsh et al., 2003). Researchers have identified numerous risk factors that elevate the risk of victimization experiences amongst people with mental illness; yet, little is known about what factors may protect this group of people from victimization That is, what is currently missing in the literature is the assessment of why, despite elevated risk, some persons with mental illness are *not* victimized – known as resiliency. Utilizing multiple datasets, factors that are associated with resiliency from victimization amongst those with mental illness are investigated using multiple measure strategies for resiliency. Further, subsequent analyses examining group differences based on biological sex within the resiliency process are explored. Additional analyses examining how protective factors may differ within diagnostic categories are also examined. The applicability of resiliency models for people with mental illness are also explored. Results suggest that two domains of protective factors are important in the resiliency process from victimization amongst this population including those related to social support and those related

to institutions such as the school. Results also suggest there are differences in protective factors that influence resiliency based on biological sex and protective factors within different diagnostic categories are identified. Finally, the compensatory resilience model appears to be the most applicable for people with mental illness. Future research and prevention implications are discussed.

VICTIMIZATION AMONGST PEOPLE WITH MENTAL DISORDERS: WHAT FACTORS INFLUENCE RESILIENCY

BY

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A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree
of
Doctor of Philosophy
in the
Andrew Young School of Policy Studies
of
Georgia State University

GEORGIA STATE UNIVIERSITY
2020

ACCEPTANCE

This dissertation was prepared under the direction of the candidate's Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Criminal Justice and Criminology in the Andrew Young School of Policy Studies of Georgia State University.

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ACKNOWLEDGEMENTS

There are a number of people that without their guidance, this dissertation might not have been written. I would like to extend my gratitude to my committee. Dr. Reed, Dr. Hinkle and Dr. Teasdale are tremendous inspirations to me. It is my hope that one day I will be able to aspire to be like them in my educational pursuits and personal development. I truly cannot express how grateful I am for all of the comments and suggestions Dr. Reed, Dr. Hinkle, and Dr. Teasdale made in the production of this dissertation. Finally, I would like to express my sincere gratitude for Dr. Leah Daigle. She is not only a huge inspiration academically, but I strive to be like the kind, sincere, inspiring, and caring person she is. I truly cannot thank her enough for the hours upon hours of teaching, guidance, and encouragement throughout my graduate career. It is my hope that one day I will be able to be half the researcher she already is. I will never be able to adequately repay Dr. Daigle, but I will forever be grateful for her leadership and teachings, both formally and informally.

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Chapter 1:
Introduction

Scholars have consistently shown that people with mental illness are at an elevated risk for victimization experiences when compared to their non-disordered counterparts (Goodman et al., 2001; Hiday et al. 1999; Hiday et al., 2002; Silver, 2002; Teplin et al., 2005; Walsh et al., 2003). Within this body of research, researchers have identified numerous risk factors that elevate the risk of victimization experiences amongst people with mental illness. Although understanding the relationship between risk factors and victimization is important, it could be argued that it is equally important to identify factors that influence why, despite elevated risk, some people with mental illness are not victimized, a phenomenon known as resiliency. Briefly, resiliency refers to a process that encompasses positive adaption despite exposure to significant adversity and risk (Fergus & Zimmerman, 2005; Luthar et al., 2000; Masten, 2001). The focus of resiliency research is to examine strengths or protective factors that ameliorate the effects of exposure to risk (Fergus & Zimmerman, 2005).

Because resiliency research focuses on positive outcomes despite significant exposure to risk, this research could have important implications for people with mental illness. Indeed, prior research has established that people with mental illness are often unmarried (Draine et al., 2002; Hiday et al., 1999; Teasdale, 2009), and when compared to the general population, people with mental illness are more likely to be unemployed (Burns et al., 2007; Draine et al., 2002), live in lower socioeconomic conditions (Draine et al., 2002; Silver, 2000; Silver et al., 2002), and suffer from diverse life stressors (Link et al., 2016; Silver & Teasdale, 2005; Silver, 2006; Steadman & Ribner, 1982; Teplin et al., 2005). Because of some of the socio-contextual disadvantages people with mental illness may encounter, it is possible that they may engage in risky lifestyle choices or lack capable guardians. As demonstrated in lifestyles/routine activities theories, engaging in

risky lifestyle choices or lacking capable guardians elevates the risk for victimization events (Cohen & Felson, 1979; Hindelang et al., 1978). Due to the increased risk of violent victimization that people with mental illness experience, and the socio-contextual risk this population may encounter, it may be especially important to examine factors that contribute to resiliency from victimization.

In addition to the increased risk for victimization, there are several other reasons why it is necessary to examine resiliency from victimization amongst people with mental illness. First, there has been a call for research on preventive psychiatry. This branch of psychiatry aims to develop individual, familial, and social protection from differing outcomes (Campbell, 2004), with a particular focus on coping amongst people with mental illness (Trivedi et al., 2014). Due to the importance the psychiatric field has placed on promoting preventive psychiatry, the criminological field could also benefit by reallocating some focus to identify protective factors that may lead to preventing violent victimization for people with mental disorders.

Second, scholars have found that individuals' well-being, which can be the outcome of being resilient to adverse events, leads to changes in psychiatric symptoms with resilient individuals reporting lower levels of psychiatric symptoms (Hjemdal et al., 2006). Stated another way, if scholars can identify and promote protective factors that lead to resiliency from violent victimization amongst people with mental disorders, then an indirect benefit of fostering protective factors may be a reduction in psychiatric symptoms. Importantly, psychiatric symptoms are associated with a host of negative outcomes, including violent victimization (Brekke et al., 2001; Chapple et al., 2004; Daquin & Daigle, 2017; Goodman et al., 1997; Hiday et al., 2002; Johnson et al., 2016; Maniglio, 2009; Silver et al., 2011; Teasdale, 2009; Teasdale et al., 2014; Walsh et al., 2003).

Third, it is also possible that resilience research on victimization amongst people with mental illness will help influence crime prevention efforts to reduce violent victimization. For example, it could be argued that protective factors may be easier to target than risk factors in crime prevention efforts. Consider risk factors such as SES or race; these factors are often static and cannot be changed. Many protective factors, on the other hand, can be amended and bolstered through prevention efforts. For example, factors such as social support or self-esteem are malleable and can be strengthened through interventions that specifically target building resources in one's life. Notably, scholars have become increasingly interested in resiliency research due to the modifiable nature of resilience factors in prevention efforts (Masten, 2001).

Despite all of these potential benefits of conducting research on resiliency from victimization amongst people with mental illness, few studies have examined this phenomenon (except see Langeveld et al., 2018). Since victimization rates are high amongst people with mental illness (Goodman et al., 2001; Hiday et al. 1999; Hiday et al., 2002; Silver, 2002; Teplin et al., 2005; Walsh et al., 2003), it is imperative to determine not only risk factors that predict victimization but also factors that protect against victimization experiences. In doing so, researchers will be able to develop a holistic picture of risk and protective factors associated with the risk of violent victimization as well as those that may protect against victimization. For these reasons, this dissertation will examine resiliency from violent victimization amongst people with mental illness.

To accomplish this examination, a series of chapters discussing relevant information related to victimization, resiliency, and mental illness will be presented. The second chapter discusses the literature related to people with mental disorders and their victimization experiences. Specifically, prevalence rates of violent victimization amongst people with mental

illness are examined, as well as understanding risk factors associated with violent victimization within this population. A discussion of explanations for risk factors associated with victimization for people with mental illness, both theoretical and non-theoretical, will be provided. Finally, a synopsis of what is currently known in the victimization and mental illness literature is reviewed as well as a summary of questions that are still remaining, namely, what is the resilience process associated with violent victimization amongst people with mental illness?

The third chapter is a presentation on information related to resiliency, mental illness, and victimization. In this chapter, the history related to the development of resiliency theory as well as common definitions of resilience is discussed. From there, common resilience concepts and resilience models are presented. Next, the literature related to negative outcomes and resiliency, victimization and resiliency, and special populations and resiliency is reviewed. A discussion of potential group differences based on gender and resiliency is provided. Then, this dissertation critically evaluates the first, to my knowledge, study that incorporates protective factors related to victimization amongst people with mental illness— Langeveld and colleagues (2018) manuscript. A discussion on potential protective factors that may influence the resiliency process for people with mental illness are also provided. Lastly, questions remaining related to resiliency from victimization for people with mental illness are discussed.

The fourth chapter presents information on the two datasets that are going to be utilized for the analyses. First, a discussion of the sampling designs utilized in the National Comorbidity Study-Adolescent supplement (i.e., NCS-A) and Pathways to Desistance study (i.e., Pathways) are discussed. Next, the measurement strategy utilized for all of the measures are presented for both datasets. More specifically, the operationalization of the dependent variable and mental health indicators are presented. There is then a discussion on measures related to theoretically-

derived risk factors, risk factors established by prior scholarship, and risk factors specific to people with mental disorders. Next, a presentation of measures related to individual-level protective factors, protective factors related to social support, protective factors related to institutions and neighborhoods, and protective factors related to having a mental illness are discussed. Finally, the control variable measures are explained and the analytical strategy will be presented.

The fifth chapter presents the results from the analyses conducted within both datasets examining six research questions. First, a discussion on research question one, which is examining which protective factors are important in the resiliency process from violent victimization, is presented. Specifically, analyses from the NCS-A and Pathways samples are presented. There is then a presentation of research question two, which examines the types of social support structures are important in the resiliency process from violent victimization for people with mental illness. Next, research question three explores if protective factors vary based on biological sex for the NCS-A sample. Analyses from NCS-A females and males are presented. There is then a discussion examining research question four, which explores what protective factors influence resiliency for people with different diagnoses. Analyses from all of the NCS-A diagnostic subgroups and Pathways substance-related subgroup are presented. Next, research question five presents an analysis examining if protective factors differ based on the content of the population under study is assessed. Finally, research question six examines different empirical tests of resiliency models, which are presented within both the NCS-A and Pathways samples.

The sixth chapter presents a discussion on the six main findings of the dissertation. In particular, protective factors that influenced resiliency for people with mental illness are

discussed. Further, differences based on biological sex are explored. In addition to biological sex differences, protective factors that influence resiliency for certain diagnostic groups are also presented. Next, differences found in protective factors based the context of the population is discussed. Results from the supplementary analyses are also discussed. There is then a discussion on future research and implications for crime prevention. Then, limitations are presented. Finally, a conclusion is given summarizing the main findings of the dissertation.

Chapter Two:
Mental Health and Victimization

People with mental illness have been implicated in several problematic and risky behaviors. Examples of such behaviors include committing acts of violence or engaging in high rates of substance abuse to name a few. Because of some problem behaviors and symptomology, people with mental illness are often subjected to increased stigma (see Link & Phelan, 2001; Link et al., 2008). People with mental illness who have been stigmatized can be attributed to, in part, to portrayal in the media as ineffective in fulfilling societal roles (Gerbner et al., 1981) and a threat to community safety, or dangerous and violent (Link et al., 1999b; Pescosolido et al., 1999). Despite the stereotype of people with mental illness being dangerous or violent, people in this population are more likely to be victims of violence than perpetrators (Choe et al., 2008; Latalova et al., 2014; Maniglio, 2009). In fact, Choe and colleagues (2008) argue, "victimization [amongst people with mental illness] is a greater public health concern than perpetration" (p. 154). Despite this differential risk, there is considerable overlap between factors that influence risky behaviors including crime with factors that are associated with victimization for people with mental illness. To understand factors that contribute to people with mental illness being violently victimized, it is first necessary to discuss other risky behaviors in which this population may engage.

Risky Behaviors Among People with Mental Disorders

Past research indicates that people with mental disorders are more likely than their non-disordered counterparts to commit acts of violence; albeit, numerous studies note that this is a modest association (Elbogen & Johnson, 2009; Monahan, 1992; Monahan et al., 2001; Mulvey, 1994; Swanson et al., 1990). In examining factors that influence violent behavior within this population, several situational and dispositional factors have been identified. For example,

situational factors that have been shown to influence violent behavior include high levels of stress/strain (Link et al., 2016; Silver & Teasdale, 2005; Steadman & Ribner, 1982), impaired social support (Silver, 2002; Silver & Teasdale, 2005), symptomology (Link et al., 1999a; Swanson et al., 1996; Teasdale et al., 2006), substance abuse (Elbogen et al., 2006; Monahan et al., 2001; Swartz et al., 1998), and disconnect from key institutions (i.e., employment, marriage, etc.) (Draine et al., 2002). Dispositional factors such as impulsivity (Bonta et al., 1998; Douglas & Skeem, 2005), psychopathy (Douglas et al., 1999; Monahan et al., 2001; Skeem & Mulvey, 2001), and certain personality traits including agreeableness, conscientiousness, openness, and extraversion (Harris & Teasdale, 2017) have also been identified as influencing violent behavior amongst people with mental disorders.

Research also indicates that substance abuse disproportionately affects people with mental illness. In fact, research shows that when compared to the general population, people with mental illness use drugs and alcohol at higher rates (Gregg et al., 2007; Reiger et al., 1990). Given that people with mental illness are at greater risk to engage in substance usage, the prevalence of comorbid alcohol or substance abuse disorders with other psychiatric disorders is high (Kessler et al., 2005; Regier et al., 1990). To illustrate, researchers have determined that having a severe mental disorder is associated with over four times the risk of having a drug dependence or substance abuse issue and over twice the risk of having an alcohol disorder (Regier et al., 1990).

Given that people with mental illness are disconnected from key institutions (Draine et al., 2002), have impaired social support (Silver; 2002; Silver & Teasdale, 2005), and engage in a host of risky behaviors such as substance abuse (Gregg et al., 2007; Reiger et al., 1990) and violence perpetration (Elbogen & Johnson, 2009; Monahan, 1992; Monahan et al., 2001;

Mulvey, 1994; Swanson et al., 1990), it is not surprising that people with mental illness may also find themselves in situations that are conducive to victimization experiences. As Cohen and Felson (1979) and Hindelang and colleagues (1978) argue, lifestyle and exposure to risky environments lead to victimization. Considering that people with mental illness may lack capable guardians, engage in risky situations, and provoke others who may be motivated offenders (see Cohen & Felson, 1979), individuals with mental illness may be at an even higher risk of violent victimization than the general population.

Violent Victimization Amongst People with Mental Disorders

In recent years, victimization has gained considerable attention in the mental health literature (Bengtsoon-tops & Kent, 2012; Dean et al., 2007; Desmarais et al., 2014; Fitzgerald et al., 2005; Goodman et al., 2001; Hiday et al., 1999; Hiday et al., 2002; Khalifeh et al., 2016; Monahan et al., 2017; Silver, 2002; Teasdale, 2009; Teasdale et al., 2014; Teasdale et al., 2016). Despite this increased attention, there is still little known about the victimization experiences of people with mental illness. What is known, however, is that people with mental illness are more likely to be victims of violence than perpetrators (Choe et al., 2008; Latalova et al., 2014; Maniglio, 2009), are at greater risk for victimization experiences when compared to the general population (Goodman et al., 2001; Hiday et al. 1999; Hiday et al., 2002; Silver, 2002; Teplin et al., 2005; Walsh et al., 2003), and often have a host of risk factors that contribute to elevated victimization risk (Brekke et al., 2001; Chapple et al., 2004; Daquin & Daigle, 2017; Goodman et al., 1997; Hiday et al., 2002; Johnson et al., 2016; Maniglio, 2009; Silver et al., 2011; Teasdale, 2009; Teasdale et al., 2014; Walsh et al., 2003).

Prevalence of Victimization Amongst People With Mental Disorders

The prevalence rate of violent victimization amongst people with mental illness varies considerably depending on the context of the study. In fact, the number of participants, diagnoses, methods of data collection, and definitions of violent victimization utilized have contributed to discrepancies in the prevalence estimates of violent victimization (Latalova et al., 2014). What is known, however, is that people with mental illness are more likely to be violently victimized when compared to the general population (Goodman et al., 2001; Hiday et al. 1999, 2002; Silver et al., 2005; Teplin et al., 2005; Walsh et al., 2003). According to Choe and colleagues' (2008) review of violence and violent victimization perpetration amongst people with mental disorders, across studies the prevalence rate of violent victimization ranges from 8% to 35%. To illustrate, in one of the most methodologically rigorous studies, Teplin and colleagues (2005) compared a sample of 936 people with mental disorders from inpatient, outpatient, and residential treatment facilities to the general population utilizing the National Crime Victimization Survey (NCVS). The scholars found that within a one-year period, more than one-quarter of the people with mental disorders had been victims of a violent crime, which was 11.8 times higher than the rate in the general population. Depending on the type of victimization, the prevalence rate ranged from 6 to 23 times greater among people with mental illness than among the general population (Teplin et al., 2005). Similarly, among a total birth cohort in Dunedin, New Zealand, Silver and colleagues (2005) found that the prevalence rate of victimization for people with mental illness was considerably higher than the victimization rate of their non-disordered counterparts. For example, the prevalence rate ranged from 8% to 34% across victimization types for people with mental illness compared to less than 1% to 20% among people without a mental illness (Silver et al., 2005). The recurring victimization rate is also high among people with mental illness. In fact, studies report that the rate of recurring

victimization for people with mental illness is approximately 64% (Policastro et al., 2016; Teasdale et al., 2014).

Prevalence rates of victimization also vary based on some demographic subcategories including gender or race as well as individual factors such as diagnostic category. For instance, compared to the general population, women who have severe mental disorders are sixteen times more likely to be violently victimized, differing from men with severe mental illness who were ten times more likely to be victimized (Goodman et al., 2001). Similarly, scholars have found that among people diagnosed with a serious mental illness, males report a lower lifetime average of violent victimization rates than females (Marley & Buila, 2001). More recently, Dean and colleagues (2018), utilizing a national cohort study of over 2 million people in Denmark, found that adjusted incident rate ratios of violent crime among people with any mental illness were 1.76 for men and 2.72 for women. The scholars note that the relative risks of victimization were consistently higher for women with mental disorders than for men with mental disorders across all categories, especially in the context of violence (see Dean et al., 2018, p. 694).

Although there is limited attention given to the relationship between race and victimization amongst people with mental illness (Policastro et al., 2016), some studies suggest that Black persons with mental illness experience higher rates of victimization when compared to other racial and ethnic groups (Teplin et al., 2005). Other scholars have found that the trajectories of recurring victimization differ for Black persons with mental illness compared to White persons with mental illness (Policastro et al., 2016). More specifically, the trajectory of recurring victimization remains somewhat stable for Black persons with mental illness while the trajectory for White persons with mental illness declines over time (Policastro et al., 2016). It is noteworthy, however, that several multivariate models analyzing victimization risk among

people with mental illness indicate that race is not a significant factor that predicts victimization (see Goodman et al., 2001; Hiday et al., 2001; Silver, 2002).

Lastly, victimization prevalence rates differ depending on diagnostic category (Chuang et al., 1987; Hiday et al., 1999; Silver et al., 2005). Across multiple studies, people with schizophrenia spectrum disorders experience higher rates of violent victimization (Chuang et al., 1987; Silver et al., 2005; Monahan et al., 2017; Teasdale et al., 2014), experience more threatened and completed assaults (Silver et al., 2005), and have flat trajectories of recurring victimization (Teasdale et al., 2014). Similarly, people with depression are significantly more likely to experience violent victimization and revictimization in a variety of contexts including prison (Azimi & Daigle, 2017; Daquin & Daigle, 2017; Teasdale et al., 2014; Teasdale et al., 2016). People with substance abuse/dependence disorder also experience more completed and attempted physical assaults (Silver et al., 2005) and are at an elevated risk for revictimization (Policastro et al., 2016; Teasdale et al., 2014). People with anxiety disorders, however, experience higher rates of sexual assaults (Azimi & Daigle, 2017; Silver et al., 2005). Finally, there are some diagnostic categories such as bipolar/manic spectrum or personality disorders that research shows are unrelated to victimization, or there are mixed empirical results. Specifically, in the prison context, bipolar/manic spectrum disorders were not significantly related to violent victimization, but people with personality disorders were at an elevated risk to experience violent victimization (Daquin & Daigle, 2017). In contrast, Silver and colleagues (2011) found that personality disorders were not significantly related to violent victimization. These differences could be attributed to differences in the context of the sample and treatment of symptoms related to such disorders. In other words, Daquin and Daigle (2017) examined a prison population in State and Federal Correctional Facilities, while Silver and colleagues (2011) used data from the

MacArthur Violence Risk Assessment Study, a longitudinal study of recently discharged people from psychiatric hospital admissions with mental illness. It is possible that the lack of effect related to personality disorders and violent victimization in Silver and colleagues (2011) study could be attributed to recent participation in inpatient treatment, while people in correctional facilities may not receive the same quality of treatment resulting in enhanced risk for violent victimization.

Taken together, research has demonstrated that people with mental illness experience higher rates of victimization when compared to the general population, experience high rates of recurring victimization, and that the prevalence rates of victimization vary depending on certain demographic subcategories and certain individual factors. In addition to understanding prevalence rates among people with mental illness, researchers have also identified certain risk factors that increase the risk of victimization as well as theoretical perspectives to attempt to explain why these associations exist.

Theoretical Explanations for Risk Factors Associated with Victimization Amongst People with Mental Disorders

Within the general victimization literature, two theories have substantially increased scholars' knowledge about potential causes of victimization experiences including Hindelang and colleagues' (1978) lifestyles theory and Cohen and Felson's (1979) routine activities theory. Briefly, Hindelang and colleagues (1978) argue that there is a direct link between lifestyle and victimization risk, with this risk varying based on key demographics such as age, race, or gender. For example, younger individuals may have less responsibility and less structure than a parent who may lead a highly structured life with specific role expectations placed upon them. This, in turn, may lead younger individuals to be at higher risk for personal victimization because these

individuals may be exposed to high-risk times, places, and people (Hindelang et al., 1978). Therefore, lifestyle theory emphasizes how demographic factors may expose a person to high-risk times, places, and people (Pratt & Turanovic, 2016).

Similarly, Cohen and Felson (1979) contend that three main factors must be present for a victimization to occur. These factors emphasize the convergence of motivated offenders, suitable targets, and the absence of capable guardians. Briefly, an offender refers to a person with the inclination and ability to carry out a criminal offense. A suitable target refers to a person or object that reflects things of value (i.e., symbolic desirability of a person or material), physical visibility, and the inability of a target to withstand illegal treatment by an offender (i.e., weight, size, physical capability, weapons present, etc.). Finally, absence of a guardian refers to a capable person or entity that can prevent criminal offenses. Thus, a victimization event is likely to occur when there is a convergence in time and space of a motivated offender, suitable target, and lack of capable guardians (Cohen & Felson, 1979).

Importantly, both theories highlight that differences in lifestyles or routine activities mediate the demographic correlates of victimization (see Miethe et al., 1987). Because of the similarities in the theories, the majority of victimization research has merged the two perspectives to explain why victimization occurs. For example, in Miethe and colleagues (1987) study, the scholars were able to combine lifestyles and routine activities theory by assessing a person's exposure to risk through the nature and quantity of activities outside of the home. As indicated by the scholars, activities outside of the home increase physical exposure to other people and sometimes provide a patterned behavior of daily activities (Miethe et al., 1987). As predicted by the lifestyles/routine activities theory, Miethe and colleagues (1987) found that certain lifestyle characteristics, such as nighttime activity outside of the home, were associated

with greater exposure to risk (i.e. routine activities theory), which in turn influenced victimization.

In the context of people with mental illness, lifestyles/routine activities theory (L/RAT) has been applied to explain why people with mental illness are at an elevated risk to be victimized. As discussed previously, people with mental illness are often disconnected from key institutions (Draine et al., 2002) that may provide capable guardianship. Additionally, people with mental illness may engage in risky behaviors such as substance use (Gregg et al., 2007) or violence perpetration (Elbogen & Johnson, 2009; Monahan, 1992; Monahan et al., 2001; Mulvey, 1994; Swanson et al., 1990), which may place them amongst motivated offenders and make them attractive targets. Empirically, there has been some support for this assertion. For example, Azimi and Daigle (2017) found that certain risky lifestyle indicators such as drug use and sexual activity fully mediated the association between certain disorder classifications and violent victimization. Similarly, Teasdale (2009) found that alcohol usage and homelessness increased the occurrence of violent victimization. When compared to the general population, Silver (2002) found that individuals with mental illness are more likely to be violently victimized when involved in a conflicted relationship. As can be seen from these studies, the lack of capable guardianship and involvement in risky behaviors elevates the risk of violent victimization amongst people with mental illness.

Although the routine activities notion of target suitability has received limited attention in the mental health and victimization literature, one study has briefly assessed target suitability, mental health, and victimization. In doing so, Teasdale (2009) analyzed how symptomology influenced violent victimization and found that increased symptom severity, functioning, and threat/control-override delusions significantly increased the odds of violent victimization.

Teasdale's (2009) findings suggest that in times when a person may be displaying heightened psychological problems, their target attractiveness may be increased, which may result in victimization. Notably, greater symptomology and severity of symptoms are established risk factors of victimization for people with mental illness (Brekke et al., 2001; Chapple et al., 2004; Daquin & Daigle, 2017; Goodman et al., 1997; Hiday et al., 2002; Johnson et al., 2016; Maniglio, 2009; Silver et al., 2011; Teasdale, 2009; Teasdale et al., 2014; Walsh et al., 2003).

In addition to symptomology, alcohol and drug use may contribute to target suitability amongst people with mental illness. In fact, within the general population, scholars have demonstrated that alcohol and drug use can increase the risk of victimization and contribute to target suitability due to the inhibitory effects that result from drug/alcohol use (Livingston et al., 2007; Small & Kerns, 1993). Importantly, scholars have documented that for people with mental illness alcohol and drug use increase the risk of violent victimization (Brekke et al., 2001; Chapple et al., 2004; Goodman et al., 2001; Johnson et al., 2016; Hiday et al., 1999; Policastro et al., 2016; Teasdale, 2009; Teasdale et al., 2014; Walsh et al., 2003; White et al., 2006) suggesting that target suitability increases in times of substance use for this population as well.

In addition to lifestyles/routine activities theory, other theories have been utilized to explain why people with mental illness are victimized at high rates. For instance, although Horney and colleagues (1995) focused on explaining criminal offending based on short-term variations in a person's life, local life circumstances perspective can also be utilized to explain victimization. Briefly, local life circumstances theory emphasizes how short-term variations in one's life, including marriage, employment, and homelessness influence criminal offending. Complimentary to L/RAT, in the context of victimization short-term variations that result in times when a person with mental illness is not married, unemployed, or homeless, may impact

guardianship and lifestyle, which then may lead to victimization experiences. Empirically, there has been some support for this theoretical perspective. Specifically, homelessness (Chapple et al., 2004; Goodman et al., 1997; Goodman et al., 2001; Hiday et al., 1999; Maniglio, 2009; Roy et al., 2014; Teasdale, 2009; Walsh et al., 2003; White et al., 2006) and poor occupational functioning (Chapple et al., 2004; Fitzgerald et al., 2005) have been implicated as significant correlates with victimization experiences for people with mental illness.

Another theory that has been utilized to explain why victimization occurs amongst people with mental illness is Felson's (1992) social interactionist perspective. Rather than stressing individual characteristics, Felson (1992) emphasizes the crucial role of social interactions. That is, Felson (1992) argues that in any given social interaction, there are key rituals that take place. A key social ritual may occur when engaging in a polite and friendly exchange with one another such as asking how someone is doing. Distressed people, however, may be less compliant in engaging in such rituals and respond in aggressive or bizarre ways. For example, although hypothetical, if a distressed person is experiencing negative symptomology and walks up to a person discussing a delusion they may be experiencing, such interaction would violate a social ritual norm and may frighten the person with whom they engaged. Thus, when the appropriate social interaction rituals are violated, an attack may be provoked in an attempt to exhibit social control. Given that people with mental illness may behave in bizarre or annoying ways that violate such rituals, they may be at increased risk for these social control attempts, which may include or escalate to victimization. Moreover, Felson (1992) argues that people who are under stress or are distressed may fail to perform appropriate interaction rituals. In other words, people who are distressed may display behaviors during social interactions that may be seen as

inappropriate or aggressive ultimately leading to an aggressive interaction that can lead to a victimization event (see Felson, 1992, p. 4).

There is some empirical support for this theoretical perspective as well. For instance, Daquin and Daigle's (2017) findings suggest support for the social interactionist perspective. Specifically, they hypothesized that aggression and violence may have resulted due to negative social interactions with others. They find that certain disorders (i.e., personality, depression) and increased symptomology (i.e., hopelessness, paranoia, and hallucinations) significantly heightened the risk of victimization experiences, which may be attributed to bizarre behavior and symptomology that could be perceived by others as disrespectful and provoking a fight (Daquin & Daigle, 2017). For instance, in an example given by Daquin and Daigle (2017), it is possible that persons with a borderline personality disorder may experience unstable emotions and relationships and engage in reckless behaviors, which may result in provocation of other inmates and ultimately victimization. Further, as previously noted, symptom severity was also found to be related to victimization experiences for persons with mental disorders by Teasdale (2009). It is possible that instead of increasing target suitability, symptomology is related to victimization through negative interactions with others. In addition, other variables found to be related to target suitability such as threat/control-override symptoms or alcohol use could also signify negative interactions with others as predicted by the social interactionist perspective. As hypothesized by Teasdale (2009), these variables may be indicators that a person with mental illness may not comply with interaction rituals, resulting in aggravating others and ultimately victimization experiences. Further, heightened symptomology or delusions may result in a person with mental illness behaving in bizarre ways, which may motivate social control attempts by others that ultimately result in a victimization experience.

In line with Felson's (1992) perspective, Silver (2002) hypothesizes that people with mental illness may be involved in conflicted relationships due to the grievances one may elicit when interacting with others. Here, Silver (2002) emphasizes how important the quality of social relationships is in a person with mental illness' life. Utilizing both the disordered and non-disordered samples of the MacArthur Risk Assessment Study (i.e., MacRisk), a longitudinal study of people with serious mental illness, Silver (2002) found that people with mental illness are more likely than their non-disordered counterparts to be involved in conflicted relationships and to be victimized. Importantly, the variable of conflicted relationships, mediated the effect of mental illness on violent victimization. Stated differently, people with mental illness are at greater risk of being a victim due to their involvement in conflicted relationships.

As can be seen, all of these theories focus on the role of lifestyles and guardianship for the life of a person with mental illness. That is, short-term fluctuations in a person's lifestyle and guardianship (as suggested by Horney et al., 1995), negative social interactions with others (Felson, 1992), and involvement in conflicted relationships (Silver, 2002) increase the risk of victimization occurring. Taken together, then, all of these theoretical explanations of victimization amongst people with mental illness suggest that guardianship is a crucial component in the lives of this population.

Risk Factors Associated with Victimization Beyond Theoretical Perspectives Amongst People with Mental Illness

Beyond the theoretical perspectives discussed above, researchers have identified several other risk factors associated with victimization amongst people with mental illness. Some of these risk factors for victimization are shared with the general population and some appear to be specific to people with mental illness. It is important to note, however, that having a mental

illness is a risk factor for victimization (Teplin et al., 2005) to begin with. Therefore, other risk factors associated with victimization are in addition to the risk factor of having a mental illness.

In common with the general population, demographic factors such as race (Policastro et al., 2016) and socioeconomic status (Policastro et al., 2016) are significantly associated with victimization for people with mental illness. Additional individual-level factors shared with the general population include violent perpetration (Chapple et al., 2004; Honkonen et al., 2004; Johnson et al., 2016; Policastro et al., 2016; Silver et al., 2011; Teasdale, 2009; Walsh et al., 2003), perpetration of other crimes including drug-related crimes (Honkonen et al., 2004), incarceration (Blitz et al., 2008; White et al., 2006; Wolff et al., 2007), poor financial position (Honkonen et al., 2004), perceived stress (Policastro et al., 2016; Silver et al., 2011), and prior childhood physical or sexual abuse (Goodman et al., 2001; Meade et al., 2009).

Other risk factors that have been implicated as significant correlates of victimization for people with mental illness appear to be specific to this population. Such risk factors include elements related to having a mental illness such as hospitalizations/treatment (Daquin & Daigle, 2017; Goodman et al., 2001), disorder classification (Silver et al., 2005; Silver et al., 2011; Teasdale et al., 2014; Teasdale et al., 2016; Walsh et al., 2003), psychopathy (Daigle & Teasdale, 2018; Silver et al., 2011), and medication noncompliance (Hodgins et al., 2009). Additional factors such as lack of daily activity (Fitzgerald et al., 2005) appear to only be pertinent to people with mental illness.[1]

Lastly, although some scholars have documented that being a transient or urban resident increases the risk of being a victim of a crime (Hiday et al., 1999), there is a lack of empirical

[1] As previously discussed in the theory section, greater symptomology/severity of symptoms (Brekke et al., 2001; Chapple et al., 2004; Daquin & Daigle, 2017; Goodman et al., 1997; Hiday et al., 2002; Johnson et al., 2016; Maniglio, 2009; Silver et al., 2011; Teasdale, 2009; Teasdale et al., 2014; Walsh et al., 2003) are also risk factors related to having a mental disorder.

investigation regarding people with mental illness and neighborhood-level influences on victimization.

What is Known and Unclear about Victimization Amongst People with Mental Disorders

Given all of the research reviewed above, there are several take-away points that should be mentioned. For example, this population is more likely to be victims of violence rather than perpetrators (Choe et al., 2008). This increased likelihood of victimization can be attributed to factors such as being disconnected from key institutions (Draine et al., 2002), having impaired social support (Silver; 2002; Silver & Teasdale, 2005), and engaging in a host of risky behaviors such as substance abuse (Gregg et al., 2007; Reiger et al., 1990) and violence perpetration (Elbogen & Johnson, 2009; Monahan, 1992; Monahan et al., 2001; Mulvey, 1994; Swanson et al., 1990), which may lead to situations that are conducive to victimization experiences.

Additionally, research has established that people with mental illness are victimized at greater rates than the general population (Goodman et al., 2001; Hiday et al. 1999, 2002; Silver et al., 2005; Teplin et al., 2005; Walsh et al., 2003). Studies have also reported that the rate of recurring victimization for people with mental illness is high (Policastro et al., 2016; Teasdale et al., 2014). Further, differing types of victimization risk and prevalence vary based on disorder classification and demographic factors such as gender and race. Finally, numerous risk factors that are associated with victimization amongst people with mental disorders have been identified. Some of these risk factors are shared with the general population and some risk factors appear to be specific to having a mental illness.

Notably, the vast majority of studies reviewed above that examined the victimization experiences of people with mental illness utilized an institutionalized sample (Brekke et al., 2001; Chapple et al., 2004; Daquin & Daigle, 2017; Goodman et al., 2001; Hiday et al., 2002;

Johnson et al., 2016; Marley & Buila, 2001; Meade et al., 2009; Monahan et al., 2017; Policastro et al., 2016; Silver, 2002; Silver et al., 2011; Teasdale, 2009; Teasdale et al., 2014; Teasdale et al., 2016; Teplin et al., 2005; Walsh et al., 2003). Comparatively, few studies utilized a community-based sample when examining victimization amongst people with mental illness (for exception see Azimi & Daigle, 2017; Dean et al., 2018; Silver et al., 2005; White et al., 2006). Because there are comparatively few studies that examine the prevalence and risk factors associated with victimization using community samples of people with mental illness, there could be unexplored group differences between institutionalized and community samples. In other words, it is possible that prevalence, risk factors, and protective factors associated with victimization amongst people with mental illness may differ based on the type of sample utilized, a possibility that has seldom been explored (except see Daigle & Teasdale, 2018).

Despite the knowledge of factors that contribute to the risk of being victimized amongst people with mental illness, there is a lack of research on why some people with mental illness are not victimized. Stated differently, there are few studies that assess factors that relate to resilience from violent victimization amongst this population. Importantly, resilience research in the context of people with mental illness and victimization is beginning to gain traction in the field. Recently, scholars have started to identify protective factors that buffer the risk from violent victimization for people with severe mental illness (Langeveld et al., 2018). Despite this one study on protective factors and violent victimization amongst people with mental illness, there are still many questions that remain. Given that there are unique risk factors for people with mental illness that are associated with victimization, this suggests that there may also be differing resiliency processes and protective factors amongst this population. Therefore, the goal is to assess why some people with mental illness, who may possess numerous risk factors to be

victimized including having mental illness, are resilient from such experiences.

Chapter 3:
Resiliency, Mental Health, and Victimization

As discussed in the last chapter, the risk of victimization of people with mental illness has been examined. Briefly, people with mental illness are not only at an elevated risk to experience victimization and revictimization, but there are also numerous risk factors associated with victimization that have been identified in the literature. Despite the elevated risk of experiencing a victimization event, most people with mental illness are not victimized, a process known as resiliency (Fergus & Zimmerman, 2005; Luthar et al., 2000; Masten, 2001; Rutter, 1990).

Despite the growing interest in resiliency within criminology (Christiansen & Evans, 2005; Daigle et al., 2010; Hart et al., 2007; Lauritsen et al., 1992; Resnick et al., 1997), there is a noticeable lack of research on protective factors related to resiliency, victimization, and mental health (for exception see Langeveld et al., 2018). This omission is surprising given the recent empirical attention given to risk factors associated with victimization amongst people with mental illness. A natural next line of inquiry about the relationship between victimization and people with mental illness is to identify protective factors that may insulate this population from the risk of violent victimization. The purpose of the current dissertation is to identify factors that promote resilience from victimization for people with mental illness.

Resilience History and Common Definitions

During the 1970's, psychologists and psychiatrists began to highlight the phenomenon of resilience after noticing patterns of positive development in people, despite their risk for psychopathology and problems in development (Masten, 2001). These psychologists issued a call to learn why some people who experience elevated risk are resilient to negative outcomes,

spawning a wealth of research. Unfortunately, despite this call, wide discrepancies in defining and conceptualizing resilience make it difficult to study resiliency (Fletcher & Sarkar, 2013).

Popular conceptualizations of resilience have revolved around defining resilience as a construct. For example, scholars conceive the notion of resilience to refer to a constellation of characteristics that enable a person to adapt to negative circumstances they may encounter (Connor & Davidson, 2003). Block and Block (1980) described these characteristics as ego-resilience, which refers to traits such as general resourcefulness, strength of character, and a sense of optimism. Five years later, Rutter (1985) denoted resilience characteristics as protective factors, defined as factors that modify or alter a person's response to an environmental hazard, that often lead to maladaptive outcomes (see Rutter, 1985, p. 600). Examples of protective factors that have been identified in the literature include positive emotions such as self-esteem (Byrne & Mazanov, 2001; Resnick et al., 1997) or positive affect (Scheier et al., 2000), attachment to others such as the family (Lauritsen et al., 1992), or achievement in one's life such as school achievement (Lammers et al., 2000; Magnani et al., 2002).

Since the early 1990's, however, scholars have shifted the focus of resilience research away from just identifying protective factors to understanding the process through which an individual overcomes adversities (Luthar et al., 1990). In the process of resilience, scholars recognize that protective factors will vary contextually and temporally (Fletcher & Sarkar, 2013). In other words, resilience will differ based on the situation and will vary across an individual's lifespan. Therefore, an important consideration when conceptualizing resilience is to take into account the interaction between people and their environments (Waller, 2001).

From this shift in conceptualizing resilience in the early 1990's, some common definitions of resilience have emerged. Indeed, rather than simply studying factors or constructs

that promote resilience, scholars began to shift their focus to understanding *how* such factors may contribute to resiliency from negative outcomes (Luthar et al., 2000). For example, resilience has been referred to as, "the process of overcoming the negative effects of risk exposure, coping successfully with traumatic experiences, and avoiding negative trajectories associated with risk" (Fergus & Zimmerman, 2005, p. 399). Other scholars have referred to resilience as a "dynamic" process (Luthar et al., 2000, p. 543), which encompasses positive adaption despite experiencing adversity (Herrman et al., 2011; Masten, 2001).

Overall, then, it appears that resilience can be conceptualized as a process, which involves overcoming negative effects of risk exposure, and maintaining "good" outcomes such as positive adaption or avoiding negative trajectories. Therefore, resilience research attempts to understand how and why some people are able to withstand (or in some cases, thrive on) the pressure they experience in their lives (Fletcher & Sarkar, 2013).

Resilience Common Concepts

To be able to examine the process of resilience, researchers must consider two central components—adversity and positive adaption. In addition, both risk and protective factors must be examined (Fletcher & Sarkar, 2013). Briefly, adversity (also referred to as risk), as defined by Luthar and Cicchetti (2000), refers to negative life circumstances that are known to be associated with difficulties in adjustment. Examples of adversity include trauma, misfortune, or difficulties in one's life (Jackson et al., 2007). Positive adaption, on the other hand, refers to, "behaviorally manifested social competence" (Luthar & Cicchetti, 2000, p. 858) or symptoms related to internal wellbeing (Masten & Obradovic, 2006). Examples of positive adaption include academic success and healthy relationships (Fletcher & Sarkar, 2013). Typically, positive adaption is an outcome of the resilience process (Fergus & Zimmerman, 2005).

In addition to recognizing adversity and positive adaption, researchers must also identify risk and protective factors. In fact, to be able to study resilience, both risk and protective factors must be present. As scholars argue, people cannot be considered resilient if there has never been a significant threat to their development (Masten, 2001). Risk factors refer to predictors of undesirable, "bad" outcomes, which are drawn from empirical evidence (Masten, 2001). Risk factors can occur at any systematic level (i.e., individual, family, community, society) (Waller, 2001) and range from status variables (i.e., race, SES, etc.) to direct measures of exposure to violence or maltreatment (Masten, 2001).

Protective factors, on the other hand, refer to qualities of the individual or the environment that protect the individual from the negative consequences of risk (Masten, 2001). According to Fergus and Zimmerman (2005), there are two types of protective factors including internal and external protective factors. Internal protective factors are referred to as assets, which are factors within an individual that manifest into self-efficacy and the ability to overcome negative experiences. Typically, assets are traits within an individual that promote resilience. Other examples of assets include competence, coping skills, and self-esteem. External protective factors, however, include resources, which refer to the social networks and community factors that impact an individual (Fergus & Zimmerman, 2005). Thus, resources emphasize the social environmental influences on a person.

Notably, resilience is sometimes confused with constructs such as coping, positive adjustment, and competence. Although these concepts are related to resilience, there are some differences that should be highlighted. As mentioned previously, a common outcome in resilience research is positive adjustment (Fergus & Zimmerman, 2005). For example, if a person was able to adjust positively despite experiencing adversity, then positive adjustment would be

the outcome of the resilience process. Similarly, another outcome of resilience research may be coping (Fergus & Zimmerman, 2005). For instance, if a person was able to avoid a negative outcome such as victimization by successfully managing a traumatic event, then coping would be the outcome of the resilience process. Lastly, at the individual-level, competence can be viewed as a protective factor. That is, the construct of competence may buffer the negative effects of risk exposure (Fergus & Zimmerman, 2005). Thus, to summarize, positive adaption and coping are outcomes or results because of the resilience process, while competence is a protective factor related to the resiliency process.

Resilience Models

Although past resilience research has conceptualized resiliency as protective factors that buffer against risk, simply identifying protective factors is not the same as measuring the ways in which resilience is produced. As Rutter (1987) explains, the point of resilience research is not to identify factors that make one feel "good" (p. 318). Rather, the goal of resilience research is to understand the mechanisms that protect people from risk and produce resiliency (Rutter, 1987). Therefore, to test resilience, it was necessary for researchers to develop strategies of assessment, which incorporated a process involving both protective and risk factors (Masten & Obradovic, 2006). Six models of resilience have been identified in the literature including the compensatory, protective, protective-stabilizing, protective-reactive, challenge, and protective-protective models. Importantly, all of these models help explain how protective factors influence or alter the trajectory of risk exposure on a negative outcome (Fergus & Zimmerman, 2005).

First, the compensatory model refers to a protective factor counteracting or operating in the opposite direction of a risk factor (Fergus & Zimmerman, 2005). In other words, regardless of the level of risk exposure, the compensatory factor reduces the negative outcome

(Christiansen & Evans, 2005). To test the compensatory model, direct effects of protective factors on an outcome are incorporated into a multiple regression analysis (Fergus & Zimmerman, 2005). Therefore, the effect of a protective factor on an outcome is independent of the effect of a risk factor (Fergus & Zimmerman, 2005).

Secondly, rather than protective factors having a direct effect on the outcome as seen in the compensatory model, in the protective model, protective factors moderate or reduce the effects of risk factors on an outcome (Fergus & Zimmerman, 2005). Typically, the protective model is empirically tested by incorporating interaction terms into a regression model. For example, an interaction term of total risk by total protection can be incorporated into multivariate regression equations (see Christiansen & Evans, 2005 for example).[2]

The challenge model, which includes a developmental focus (Fergus & Zimmerman, 2005), suggests that the association between a risk and protective factor is curvilinear. Here, scholars argue that a small amount of risk exposure is more beneficial than no risk exposure in reducing the negative outcome (Christiansen & Evans, 2005). Therefore, according to the challenge model, high and low levels of a risk factor have a stronger relationship with the outcome. Typically, this association is assessed through longitudinal data analysis (Fergus & Zimmerman, 2005) where prior risk exposure overtime can be assessed in the context of the outcome of interest. Fergus and Zimmerman (2005) provide an example. Consider an adolescent who is exposed to moderate levels of risk. In this situation, an adolescent is able to learn how to

[2] There are two resilience models that will not be tested in this dissertation including the protective-stabilizing and protective-reactive models. Briefly, however, in the protective-stabilizing model, protective factors will help counteract the effects of risk. In other words, when a protective factor is absent, high levels of risk are associated with high levels of the negative outcome; however, when the protective factor is present, the relationship between risk and the negative outcome are no longer present (Fergus & Zimmerman, 2005). Similar to the protective-stabilizing model, the protective-reactive model refers to instances in which the protective factor helps diminish the correlation between risk and the negative outcome, but does not completely remove the association like the protective-stabilizing model (Fergus & Zimmerman, 2005).

overcome the risk without thinking that the risk is impossible to overcome. Fergus and Zimmerman (2005) argue that moderate levels of risk exposure are beneficial because it provides adolescents with the opportunity to employ resources and strategies to overcome risk.

Lastly, in the protective-protective model, protective factors have the ability to enhance the effect of another protective factor in producing a positive outcome (Brook et al., 1986). A Another conceptualization of the protective-protective model refers to the idea of cumulative protection, which suggests that as the number of protective factors increases, the impact of risk factors on the outcome reduces (Christiansen & Evans, 2005). To empirically test the protective-protective model, a total protection scale is generally created in which the number of protective factors are added together (see Christiansen & Evans, 2005; Daigle et al., 2010). Then, the total protection scale and control variables are included in a multivariate regression models for high- and low-risk subgroups predicting resiliency.

Negative Outcomes and Resiliency

As stated previously, resilience research focuses on examining factors and processes that influence people to overcome risk. Although a vast amount of criminological research has focused on identifying risk factors that influence negative outcomes such as criminal offending, identifying factors that promote resilience have been given less attention. From the research that has examined factors that protect at-risk people from negative outcomes, several domains of protective factors have emerged including: individual-level attributes, factors related to the family, and factors related to support systems outside of the family (Garmezy, 1985).

One domain of protective factors are those connected to individual-level attributes. For instance, factors such as such as having an internal locus of control (Scheier et al., 2000), a positive affect (Scheier et al., 2000), high self-esteem (Byrne & Mazanov, 2001; Resnick et al.,

1997), self-efficacy (Santelli et al., 2004), and future orientation (Bryant et al., 2003) promote resiliency from substance abuse and certain health risk behaviors such as age of sexual debut, adolescent sexual activity, or teen pregnancy. Other scholars have found that individual-level attributes such as religiosity (Barkin et al., 2001; Wills et al., 2003; Wright et al., 2016) and having attitudes unfavorable towards violence (Hart et al., 2007) fosters resiliency from violent offending.

Aside from individual-level attributes that have been identified, researchers have also found that factors related to family support are crucial protective factors. In fact, findings show that being a member of a supportive and caring family influences resilient outcomes for at-risk people (Weinraub & Wolf, 1983). Not surprisingly then, parent-family connectedness (Farrell & White, 1998; Fleming et al., 2002; Resnick et al., 1997) is an important protective factor that promotes resiliency from negative outcomes such as violent offending or substance abuse. Certain parenting styles such as high parental supervision and demandingness (Griffin et al., 1999; Hart et al., 2007; Resnick et al., 1997) have also been shown to influence resiliency from offending behaviors.

Other relationships outside of the family have been identified as factors that insulate people from the risk of negative consequences. For example, supportive friendships (Crosnoe & Elder, 2004), having a caring adult in the community (Hart et al., 2007) and bonding with one's teacher (Crosnoe & Elder, 2004) were all identified as beneficial protective factors in the context of violent offending and off-track academic behavior.

In addition to relationships, support systems provided by certain institutions can influence resiliency from negative outcomes. For example, participation in extracurricular activities (Anteghini et al., 2001; Crosnoe, 2002) has been shown to be an important protective factor in

the context of health-risk behaviors. Studies have also found that factors related to the school can provide protection for at-risk youth. Specifically, school achievement (Lammers et al., 2000; Magnani et al., 2002), high grades (Hart et al., 2007), and perceived school connectedness (Resnick et al., 1997) influence resiliency from offending behaviors.

Considering this body of research together, factors that promote resiliency from several negative outcomes revolve around the individual, the family, and relationships and activities outside of the family. Although there is some knowledge on factors that promote resiliency from negative outcomes, there is a noticeable lack of research on resiliency from one negative outcome in particular—victimization.

Victimization and Resiliency

Although few studies have examined protective factors and the resiliency process in the context of victimization (Christiansen & Evans, 2005; Daigle et al., 2010; Lauritsen et al., 1992), this research has made several important contributions. First, scholars have shown that there are subsets of at-risk people who are resilient from victimization experiences, and certain protective factors have been identified as important in influencing resiliency from victimization. Secondly, this research has empirically examined and tested numerous resilience models in the context of victimization. As noted before, resiliency is a process and typically tested through one of the six resiliency models identified in the literature amongst a high-risk group.

One of the first investigations into protective factors that prevented victimization was undertaken by Lauritsen, Laub, and Sampson (1992). Utilizing two national data sources, the National Youth Survey (NYS) and Monitoring the Future Study (MTF), the scholars sought to determine the relationship between activity involvement and the risk of victimization amongst adolescents. The scholars find that several protective factors related to pro-social activities and

attitudes related to the school decreased the risk of victimization including more time spent studying, having higher grade point averages, perceived school importance, and attachment to school (Lauritsen et al., 1992). In addition to factors related to the school, family-related factors were also significant protective factors related to a lack of victimization experiences, while controlling for risk and demographic factors. Specifically, attachment to the family and engaging in family activities were important protective factors related to a reduction in victimization. Although not explicitly stated by the authors, it appears the compensatory resilience model was tested, suggesting that the protective factors had a direct effect on victimization. Lauritsen and colleagues (1992) study was the first to illuminate protective factors in relation to victimization, highlighting the importance of activities and commitment related to school, as well as factors related to the family.

Over a decade later, Christiansen and Evans (2005) examined how risk and protective factors were associated with adolescent victimization. Specifically, the scholars tested four popular models of resiliency including the compensatory, risk-protective, protective-protective, and challenge model. To test these resilience models, data collected in 1998 and 1999 from eighth grade students in high-risk urban and rural school sites in California, Arizona, Nevada, and Wyoming were utilized.[3] Similar to Lauritsen and colleagues (1992), Christiansen and Evans (2005) found that parental monitoring, social connectedness, and neighborhood cohesion promoted resiliency from victimization. They also determined that only the challenge model was supported by their data. That is, Christiansen and Evans' (2005) findings suggest that some exposure to risk, such as witnessing family conflict or violence, actually decreases adolescent's vulnerability to victimization. If the exposure to risk increases to above a moderate exposure of

[3] The sample was selected based on common risk factors such as SES, drug use, and violence (Christiansen & Evans, 2005). Because the sample contained high-risk adolescents, and Christiansen and Evan's (2005) were testing multiple ways in which resiliency was produced, this study constitutes a true test of resiliency theory.

risk, however, then vulnerability to victimization significantly increases. Notably, Christiansen and Evan's (2005) study extended knowledge from identifying protective factors in relation to victimization to also examining how to empirically test resilience models in the context of victimization research.

Five years later, Daigle, Beaver, and Turner (2010) investigated how individual protective factors and an accumulation of protective factors contribute to promoting resiliency from victimization. Utilizing data from the National Longitudinal Study of Adolescent Health (Add Health), factors that promote resiliency were assessed within a high-risk group and protective factors associated with a lack of victimization were assessed in a non-high-risk group. To do so, the scholars identified a sample of people who were high-risk for victimization by designing a seven-item risk-factor scale. A high-risk sample was identified for those who had four or more risk factors on this scale. Results indicated that only one protective factor was significantly associated with resiliency from victimization for the high-risk group—commitment to school (Daigle et al., 2010). This finding further illustrates the importance of the school context in victimization and resiliency research. For the non-high-risk group, the scholars find that certain protective factors such as verbal IQ and social support were significantly associated with a lack of victimization experiences (Daigle et al., 2010). Further, the scholars find that an accumulation of protective factors promoted resiliency from victimization amongst the high-risk group of adolescents (Daigle et al., 2010). This finding provided support for the protective-protective model, which highlights that as the number of protective factors increases, the impact of risk on a negative outcome reduces.

To summarize, of the limited research that examines victimization, protective factors, and resiliency, scholars have identified protective factors and models of resiliency that are

particularly important. In doing so, there appears to be four distinct themes. First, findings suggest that social support may be essential in providing protection from victimization amongst at-risk people. That is, across studies, attachment to others including attachment to family (Lauritsen et al., 1992), social connectedness (Christiansen & Evans, 2005), and social support (Daigle et al., 2010) were shown to either influence resiliency or be important protective factors from victimization. It could be hypothesized that social support may provide protection in instances where a victimization may occur, or depending on the quality of social support, may dissuade one from engaging in risky behaviors that are conducive to victimization.

Second, findings suggest connections to neighborhoods and institutions are also influential protective factors related to resiliency from victimization. In particular, amongst adolescents, connection to school appears to be especially important. That is, studies identified that commitment to school (Daigle et al., 2010; Lauritsen et al., 1992) as well as pro-social activities related to the school (Lauritsen et al., 1992) either influenced resiliency from victimization or were important protective factors when examining why people are not victimized. Other connections at the neighborhood level were also shown to be important protective factors in the study of resiliency from victimization. That is, scholars found that neighborhood cohesion (Christiansen & Evans, 2005) provided protection from victimization for at-risk people. Perhaps these neighborhoods and institutions provide a support structure in which victimization is less likely to occur due to the lack of involvement in risky behaviors, the availability of capable guardians, and the absence of motivated offenders.

Third, scholars examined how protective and risk factors influenced resiliency from victimization by testing several resilience models. Findings support the compensatory, challenge, and protective-protective resilience models. Thus, these findings suggest that the presence of

protective factors may directly protect against victimization (compensatory model), moderate exposure to risk is associated with lower levels of victimization (challenge model), and an accumulation of protective factors (protective-protective model) insulates at-risk people from being victimized.

Fourth, there was limited evidence that individual-level protective factors influenced resiliency from victimization. This lack of relationship is somewhat surprising given that several individual-level protective factors, such as self-esteem or future orientation for example, were identified as significant in the association between resiliency and other negative outcomes. The lack of empirical evidence associated with individual-level protective factors may further illustrate the importance of social support in the context of resiliency from victimization.

Special Populations and Resiliency

To understand resiliency from victimization for people with mental disorders, it may be necessary to first understand factors that influence resiliency amongst special populations generally. Special populations can be conceptualized as disadvantaged groups. Examples of such populations may include people within the LGBT community, people with disabilities, or people with mental illness. Because of disadvantaged circumstances special populations may encounter, special populations may experience differing risk, and factors associated with risk, than the general population. For example, transgender people are likely to experience higher rates of victimization and differing risk factors than the general population. To illustrate, scholars have found that among transgender people in a national study, 59% indicated that they were victims of violence in their lifetime (Lomardi et al., 2001). Further, many of these crimes committed against this population may be hate-crime induced (see Langenderfer-Magruder et al., 2016 for review). As demonstrated previously, people with mental illness also experience differing risk and risk

factors associated with victimization than the general population. In particular, people with mental illness are more likely to be victimized than the general population, and numerous risk factors associated with victimization are unique to this population. Given this knowledge, people with mental illness could also be considered a special population. Because of the different levels of risk and risk factors associated with adversities amongst special populations, there may also be differing protective factors.

Since research has yet to comprehensively examine the resiliency process for people with mental illness and victimization, research on resiliency of other special populations may be informative. Within the research on resiliency from negative outcomes for special populations, two main domains of protective factors have been identified. These domains include individual-level attributes and social support.

Several factors within the first domain, individual-level attributes, have been shown to insulate at-risk populations from negative outcomes. In particular, individual-level factors that are empirically associated with resiliency amongst special populations include factors that foster acceptance and understanding of one's self. For instance, having identity pride (Bockting et al., 2013; Scourfield et al., 2008), self-understanding, and higher levels of self-esteem (Cosden, 2001; Morrison & Cosden, 1997) promoted resiliency from negative outcomes amongst transgender populations, people with lesbian or gay sexual orientation, and amongst people with learning disabilities. Additionally, for children, temperament was identified as an important individual-level protective factor (Kumpfer, 2002).

In addition to individual-level attributes, research on resiliency and special populations has also demonstrated a second domain of protective factors—those related to social support. For example, research has shown that peer support significantly alters negative trajectories (Bariola

et al., 2015; Bockting et al., 2013; Budge et al., 2013; Fredriksen-Goldsen et al., 2013; Mizock & Lewis, 2008; Nemoto et al., 2011; Scourfield et al., 2008; Singh et al., 2011; Singh & McKleroy, 2011; Singh et al., 2014) within LGBT populations. Other relationships, including family, sibling, and teacher support, also influence resiliency from negative outcomes for people with learning disabilities (Margalit, 2004), transgender people (Bockting et al., 2013), and children (Afifi & MacMillan, 2011; Bowes et al., 2010; Osgood et al., 2010). Finally, the quality of relationships (Bowes et al., 2010; Cosden, 2001; Kumpfer, 2002; Kumpfer & Bluth, 2004; Morrison & Cosden, 1997) and stableness of social support (Afifi & MacMillan, 2011) has also been shown to influence resiliency from negative outcomes amongst children and people with learning disabilities.

Because of unique circumstances special populations may encounter, the ability to feel understood and accepted through support groups appears to be particularly important. For example, special organizations, such as LGBT support groups, fosters resiliency from risky behaviors for vulnerable populations (Scourfield et al., 2008). Similarly, amongst people who have learning disabilities, parental understanding of such disabilities significantly protects against negative outcomes (Morrison & Cosden, 1997). Lastly, having a positive marginalized group identity insulates LGBT populations from negative outcomes (Hendricks & Testa, 2012; Meyer, 2015).

Collectively this research suggests that social support may be especially important in promoting resiliency from victimization among special populations. The research on resiliency from victimization generally also indicates the importance of social support. Given these findings, it is likely that factors related to social support are likely candidates in influencing resiliency from violent victimization amongst people with mental illness. Additionally,

individual-level factors, such as social competence, higher levels of self-esteem and self-acceptance, and temperament may be additional candidates in influencing resiliency from victimization amongst people with mental illness. That is, if a person has a generally positive temperament, social competence, and engages in pro-social activities, it is possible that person will be resilient from victimization experiences.

Biological Sex and Resiliency

In addition to identifying protective factors that influence the resiliency process from negative outcomes for people with mental disorders, it is also possible that the resiliency process may differ based on group differences. Because scholars have emphasized that future resiliency research should consider features such as social position, characteristics, or developmental competencies (see Luthar et al, 2000, p. 553), it is important to examine if and how groups may differ. One such group difference that is worthy of exploration is biological sex. Further, there are theoretical justifications for examining sex differences. For example, there has been some evidence that the stress coping perspective is gendered in that men and women tend to respond to life stress differently (Stroud et al., 2002; Taylor et al., 2000). Additionally, lifestyles/exposure theory asserts that lifestyle differences based on demographics (such as sex) may expose individuals to situations with differing risk for victimization (Hindelang et al., 1978). As such, some scholars have suggested that biological sex can shape one's daily routines and may create a sex-specific relationship with victimization (Novak & Crawford, 2010; Popp & Peguero, 2011). Thus, there may also be biological sex differences in the resiliency process from violent victimization for people with mental disorders.

Although some scholars suggest that the resiliency process may differ based on biological sex (Christiansen & Evans, 2005; Crosnoe & Elder, 2004; Luthar et al., 2000), there are few

empirical tests separating resiliency models based on sex. Of the empirical tests that do examine sex differences in the resiliency process from negative outcomes, there is evidence that there are significant differences across males and females for certain protective factors.[4] For example, Crosnoe and Elder (2004) find that there are group differences based on sex on the protective factor, support from friends, on the negative outcome, off-track academic behavior. Specifically, the protective factor, support from friends, counterbalances the risk factor, parent-related risk, for girls. Support from friends, however, was not a significant protective factor for boys in their study. Relatedly, in Christiansen and Evans (2005) study, the scholars find sex differences on the protective factor, parental monitoring. Specifically, compared to males, parental monitoring is a significant protective factor against victimization for females (Christiansen & Evans, 2005).

In addition to sex differences in certain protective factors, it is also possible that there may be differences in the resiliency process for males and females. To empirically test this assertion, Christiansen and Evans (2005) hypothesized that there may be different resiliency models for victimization supported for females compared to males. Contrary to the scholars' hypothesis, however, there were not sex differences in resiliency models for victimization. Rather, as discussed previously, there was only support for the challenge model for both males and females. Thus, a moderate amount of risk exposure was associated with lower levels of victimization. The scholars note, however, that it is possible that other resiliency models may be empirically supported with different protective factors than the ones included in their study (see Christiansen & Evans, 2005, p. 312). Because the researchers only included protective factors such as social connectedness, parental monitoring, neighborhood cohesion, and an accumulation protection variable, these measures exclude a whole other subgroup of protective factors

[4] Since the current dissertation is interested in the resiliency process from victimization amongst people with mental illness, the literature review will be limited to sex differences within the resiliency process. Thus, sex differences within the general victimization literature will not be discussed.

including individual-level attributes. As noted above, individual-level attributes have been shown to influence resiliency from several negative outcomes including victimization and amongst certain special populations. Thus, it is possible that the scholars did not target the right constellation of protective factors in the resiliency process from victimization resulting in a lack of significant findings regarding resiliency models and potential sex differences.

Within the victimization literature, there is evidence that there are differences in risk factors for victimization based on sex. For example, scholars have found that females are significantly more likely to fear victimization and engage in avoidance behaviors (May et al., 2010; Titus et al., 2003), and single women with and without children were more likely to be victims than married women (Lauritsen & Carbone-Lopez, 2011). Men, on the other hand, were more likely to experience violent victimization when living in neighborhoods that are disadvantaged (Lauritsen & Carbone-Lopez, 2011), and were more likely to experience stalking victimization when having lower levels of self-control (Fox et al., 2016). Based on these findings, it is possible that there may be sex differences on protective factors such as self-control and marital status.

Furthermore, there are several reasons for why it is possible that there are group differences based on sex for people with mental disorders. First, as discussed earlier, females with mental disorders are at a greater risk of violent victimization than males with mental disorders (Goodman et al., 2001; Marley & Buila, 2001). There may be differences in what factors influence this risk for males and females. Similarly, it is also possible there may be sex differences in the resiliency process from violent victimization within this population. Second, as postulated by prior scholars (e.g., Teasdale et al., 2006), it is possible that people with mental illness experience and cope with stressors in different ways. That is, as discussed by Teasdale

and colleagues (2006), females with mental disorders may respond to stress through seeking out support from peers. Men with mental disorders, on the other hand, may respond to stress through tendencies in line with a fight or flight reaction. Notably, Teasdale and colleagues (2006) find support consistent with these hypotheses in the context of sex, threat/control-override symptoms, and violence. Given that males and females with mental disorders may cope with stress in different manners, it is possible that these coping mechanisms may differ in their effectiveness in increasing resiliency to victimization. That is, given that support from peers appears to be an important coping mechanism for females with mental disorders, it is possible support for peers may relate to resiliency against victimization for females but not males. Further, given that males with mental disorders may respond to threat in a fight or flight reaction, it is possible that there may be group differences predicting resiliency based on sex on individual-level protective factors such as self-control.

To summarize, since there are differences across sex for certain protective factors, it is possible that there may be sex differences in protective factors related to the resiliency process from victimization for people with mental illness. Further, given that there are sex differences in the prevalence of violent victimization for people with mental illness, and people with mental illness may cope with stress in different ways based on sex, it is possible that there are sex-specific protective factors such as social support or self-control amongst people with mental illness. Because of these possibilities, it may be necessary to empirically test if protective factors or resiliency models differ based on sex amongst people with mental illness. Notably, there has yet to be an empirical examination, to my knowledge, of sex differences within resiliency models from negative outcomes, including victimization, for people with mental illness.

Mental Illness and Resiliency from Victimization

Despite findings on resiliency and protective factors germane for special populations, there is a noticeable lack of research on the resiliency process for victimization for one special population—those with mental disorders. In fact, there is currently only one study, to my knowledge, that has incorporated both risk and protective factors into their examination of violent victimization amongst people with mental illness. Specifically, utilizing data from the Scandinavian Early Treatment and Intervention in Psychosis (TIPS) project, Langeveld and colleagues (2018) examined the influence of risk factors such as alcohol/drug misuse, participant's own violent behavior, and heightened symptomology along with protective factors such as seeing friends 2-3 times a month or more, working 20 hours a week or more, and symptom remission on violent victimization.

A prospective design was utilized and two main analyses were conducted. One analysis examined baseline indicators (the commencement of first treatment) of victimization during the 10-year follow-up period. The second analysis examined correlates of victimization at the 10-year follow-up period (i.e., reported the correlates during the last year before the 10-year follow-up period). The scholars found that baseline indicators, such as using illegal drugs were significantly associated with violent victimization while working 20 hours a week or more and seeing a friend 2-3 times a month or more were significantly associated with the absence of violent victimization amongst people with mental illness. During the 10-year follow-up, however, correlates such as alcohol misuse, using illegal drugs, and the participant's own violent behavior were all significantly associated with violent victimization (Langeveld et al., 2018). Interestingly, none of the protective factors were significantly associated with the risk of violent victimization during the 10-year follow-up wave.

Although it is surprising that none of the protective factors were significantly related to

victimization experiences at the 10-year follow-up wave, this lack of effect may be due to a small sample size. That is, at baseline, there were 67 victims of violent assaults and 231 non-victims; however, at the 10-year follow-up wave there were only 12 victims of violent assaults and 166 non-victims. It is possible this lack of association between protective factors and victimization during the 10-year follow-up period is due to lack of statistical power. Moreover, the lack of association between protective factors and victimization could also be attributed to the possibility that factors that may be protective were not included in the model. Only three protective factors were included (one symptomology measure, one social support measure, and one individual-level measure); thus, additional protective factors that have been shown to matter for special populations were not included in the model. Finally, it is also possible that the baseline and 10-year follow-up period are too far away from one another temporally for effects to be present. That is, perhaps the lack of findings regarding protective factors during the 10-year follow-up could be attributed to the large gap in time between the follow-up period and baseline suggesting, that the protective factors in the model may no longer be protective for this sample 10 years later.

It is noteworthy that the main aim of Langeveld and colleagues (2018) study was to examine the prevalence rates and risk factors associated with violent victimization during the first psychosis episode (at baseline—the commencement of first treatment) and throughout the course of the disorder (at the 10-year follow-up period). Thus, assessing protective factors that are related to a lack of victimization experiences amongst people with mental illness appears to be a secondary goal of the study. In fact, the scholars only briefly touch on their findings related to protective factors and victimization in the manuscript. Rather, most of the attention was given to prevalence rates and risk factors associated with victimization at different time periods (onset

and throughout) of one's mental illness.

To build off of Langeveld and colleagues (2018) study, the current dissertation will examine additional factors that may be protective for people with mental illness from experiencing violent victimization. Based on all of the research discussed above, it is reasonable to suspect that two main domains of protective factors will be important for people with mental disorders. These domains of protective factors include those related to social support and those related to individual-level attributes.

Potential Role of Social Support

Given research findings about the resiliency process and victimization, and the observation that social support appears to be a consistent protective factor for other special populations, social support may also be especially important for people with mental disorders. In fact, prior scholars have demonstrated the positive impact social support has within the lives of people with mental disorders. For example, in the context of people with mental disorders, social support has been shown to improve psychological well-being (see Kawachi & Berkman, 2001*;* Taylor & Brown, 1988; Turner, 1981), improve symptomology (Ueno, 2005), reduce social isolation (Davidson et al., 1999), and enhance one's quality of life (Anthony, 1993; Davidson et al., 1999).

The positive role of social support for a person with mental illness has also been illuminated in Pearlin's (1989) sociological study of stress and Pearlin and colleagues' (1981) stress process prospective. As Pearlin and colleagues (1981) explain, life stressors, such as getting fired, having to leave work because of an illness, marital issues, or having economic strains, for example, can lead to a diminishment in elements such as self-concept or self-esteem. These changes in self-concept or self-esteem can then lead to stress and influence depressive

symptomology. Certain mechanisms, such as the quality of social support, however, can intervene along this stress process and help minimize the experience of stress as well as reduce depressive symptomology. Based on this perspective, it is possible that the quality of social support can reduce symptomology, which then may lead to a reduction in victimization experiences. As noted previously, symptomology related to mental illness is a significant risk factor for victimization experiences.

Perhaps another benefit of social support amongst people with mental illness may be providing protection from victimization experiences. In fact, lifestyles/routine activities (L/RAT) theories have demonstrated the critical role guardianship plays in preventing victimization experiences. Specifically, as postulated by L/RAT, guardianship can decrease the likelihood of victimization occurring by simply having a capable guardian present who can prevent criminal offenses. As discussed previously, prior studies examining victimization experiences for people with mental illness have demonstrated that the lack of capable guardianship elevates the occurrence of violent victimization risk (see Silver, 2002; Teasdale, 2009). Furthermore, scholars have also documented the negative impact conflicted relationships have on victimization outcomes (Silver, 2002). In contrast, when capable guardianship is present within a person with mental illness' life, the likelihood of a victimization experience occurring is decreased.

It is also possible that social support may be able to reduce target suitability amongst people with mental illness. That is, prior research has demonstrated the positive influence social support can have on the life of a person with mental illness. Perhaps through social support's role of decreasing social isolation and symptomology and increasing well-being, people with mental illness may not need to engage in maladaptive coping techniques such as substance abuse (see

Meyer, 2001; Ryan et al., 2014), ultimately reducing target suitability and victimization experiences.

Thus, it is possible that social support is a key protective factor in preventing victimization experiences for three main reasons. First, for people with mental disorders, the positive impact of social support has been documented (i.e., improves well-being, reduces symptomology, etc.). Secondly, there are theoretical reasons why social support would protect against victimization (i.e., guardianship, possibly reducing target suitability). Third, prior resiliency research has consistently demonstrated the importance of social support within the general population, special populations, and within the context of resiliency and victimization. Because of these reasons, it is plausible that social support will also be an important protective factor in preventing victimization experiences for people with mental illness.

Potential Role of Individual-Level Attributes

Aside from factors related to social support, it is also reasonable to suspect that individual-level attributes would also influence resiliency from victimization experiences. Drawing upon literatures on negative outcomes and resiliency, victimization and resiliency, and special populations and resiliency, there are several individual-level attributes that are likely to provide protection from victimization experiences amongst people with mental illness.

For example, as the negative outcomes and resiliency literature has highlighted, influential individual-level factors that are related to one's self such as having positive affect (Scheier et al., 2000), high self-esteem (Byrne & Mazanov, 2001; Resnick et al., 1997), internal locus of control (Scheier et al., 2000), and future orientation (Bryant et al., 2003) influenced resiliency from a host of negative outcomes. Another individual-level attribute that has been found to foster resiliency from negative outcomes includes religiosity (Hart et al., 2007).

Similarly, within the special populations and resiliency literature, the same protective factors have been established as influential in promoting resiliency. That is, having higher levels of self-esteem (Cosden, 2001; Morrison & Cosden, 1997) and positive temperament (Kumpfer, 2002) were factors that provided protection from negative outcomes for special populations. In addition to these factors, other factors related to understanding one's self were found to be important amongst special populations. Specifically, factors such as having identity pride (Bockting et al., 2013; Scourfield et al., 2008), self-understanding (Bockting et al.,2013), and social competence (Hjemdal et al., 2006) were also factors that influenced resiliency from negative outcomes.

Relatedly, as the victimization and resiliency literature has highlighted, commitment to institutions are also important individual-level protective factors. Specifically, commitment to school was a consistent protective factor that influenced resiliency from victimization (Lauritsen et al., 1992; Daigle et al., 2010). It is also plausible that commitment to other institutions, such as employment, may also be important protective factors for people with mental illness.

Finally, it is also possible that individual-level variables that are related to mental health may also be important individual-level protective factors. As demonstrated in the victimization and mental health literature, greater symptomology and severity of symptoms (Brekke et al., 2001; Chapple et al., 2004; Daquin & Daigle, 2017; Goodman et al., 1997; Hiday et al., 2002; Johnson et al., 2016; Maniglio, 2009; Silver et al., 2011; Teasdale, 2009; Teasdale et al., 2014; Walsh et al., 2003) as well as diagnostic category (Silver et al., 2005; Silver et al., 2011; Teasdale et al., 2014; Teasdale et al., 2016; Walsh et al., 2003) are consistent risk factors of victimization amongst people with mental illness. It is possible that lack of negative symptomology, which may be a function of certain diagnostic categories, may be an important

protective factor for people with mental illness. Further, given that medication non-compliance is a significant risk factor for victimization amongst people with mental disorders (Hodgins et al., 2009), protective factors related to mental health treatment services and medication compliance are likely to be important.

Finally, Pearlin and colleagues (1981) and others (Mirowsky & Ross, 1991, 2001; Pudrovska et al., 2005) have argued that psychological resources such as coping or mastery can be individual-level mechanisms that are likely to intervene in the stress process outlined above. That is, if a person has certain coping abilities, such as managing stressful symptoms, modifying situations that give rise to stress, or modifying the meaning of problems that result because of stress, then there will likely be a reduction in stress or depressive symptomology (Pearlin et al., 1981). Similarly, if people have a high sense of mastery, which refers to the extent to which people believe that they are in control of the forces that affect their lives, then it can lead to a reduction in stress and positively impact mental health (Pearlin et al., 1981). Because people with mental disorders may feel as if they have a lack of control over their lives, a higher sense of mastery and perceived control are crucial individual-level attributes relevant to this population (Kravetz, Faust, & David, 2000; Warner et al., 1989).

Based on all of the literature discussed above there are several main points that should be highlighted. First, there are several factors that have consistently been shown to be important protective factors across the general and special populations. These factors are related to positive internal attributes such as self-esteem or positive temperament. Given these consistent findings across literatures, it is reasonable to suspect that positive internal attributes will also provide protection from victimization amongst people with mental illness. Second, it appears that connection to religious practices is an important protective factor within the general and special

populations as well. Because of this, it is possible that engagement in religious practices may also influence resiliency from victimization amongst people with mental illness. Third, connections to institutions have been shown to be particularly important within the victimization and resiliency literature. It is reasonable to suspect that connections to institutions, such as school or employment, will also influence resiliency from victimization amongst people with mental illness. Fourth, certain individual-level factors, that are specific to people with mental illness, may also influence resiliency from victimization. Specifically, lower levels of negative symptomology, which may be related to certain diagnostic classifications, may be an important protective factor for people with mental illness that could promote resiliency from victimization. Finally, factors related to mental health service utilization and medication compliance may also be important protective factors for people with mental disorders.

Questions Remaining

In sum, based on findings regarding the resiliency process from victimization, the resiliency process amongst special populations, prior research on people with mental illness, and Langeveld and colleagues (2018) study, the theme of social support remains constant. As can be seen throughout all of this research, it appears that strong social networks influences resiliency from victimization, resiliency from negative outcomes for special populations, and even resiliency from victimization amongst people with mental illness. In addition to social support, individual-level factors have also been shown to influence resiliency within the general and special populations. It is likely that these individual-level factors will also influence resiliency from victimization amongst people with mental illness.

Despite this knowledge, there are still questions that remain. For instance, what types of social support are important for people with mental illness in the resiliency process from violent

victimization? Do protective factors that are significantly associated with the risk of violent victimization amongst people with mental illness vary based on sex? What protective factors influence resiliency for people with different diagnoses? Which resiliency model is the most useful in explaining associations between risk and protective factors that are related to victimization amongst people with mental illness? Do protective factors differ based on the context of the population under study (i.e., institutional versus community)? Notably, of the one study that examined mental illness, protective factors, and victimization, the scholars utilized an institutionalized sample. Thus, it is still unknown if and how protective factors influence the resiliency process and if there are differences in protective factors based on the type of sample utilized. Therefore, the purpose of the current dissertation is to attempt to fill some of these knowledge gaps on the resiliency process from violent victimization for people with mental illness.

Current Study

Although there are recent attempts to understand the resiliency process from victimization amongst people with mental illness, there is much that is still unknown. Given the importance of resiliency research as it relates to informing prevention, this omission of research is particularly striking. Using the National Comorbidity Study-Adolescent supplement (i.e., NCS-A) and Pathways to Desistance study data, the current dissertation examines the resiliency process from victimization amongst people with mental illness. More specifically, the current dissertation aims to answer six research questions:

1. *What protective factors are important in the resiliency process from violent victimization for people with mental illness?*
2. *What types of social support structures (i.e., peer, parent, family support) are*

important in the resiliency process from violent victimization amongst people with mental illness?

3. *Do protective factors vary based on sex for people with mental illness?*
4. *What protective factors influence resiliency for people with different diagnoses?*
5. *Do protective factors differ based on the context of the population under study (i.e., institutional versus community)?*
6. *Which resiliency model is the most useful in explaining associations between risk and protective factors that are related to victimization amongst people with mental disorders?*

There are multiple benefits to using two different data sources to answer these research questions. First, using multiple sources of data and information is both methodologically rigorous and innovative way to examine the resiliency process from victimization amongst people with mental illness. Second, the usage of multiple datasets allows for a replication of analyses. Thus, if there is concordance between the two datasets, then this would bolster confidence that any findings are real and are present using different samples. If there is not concordance, then this could illuminate some potential nuances between recently institutionalized and community-based populations that future research may need to account for in research investigating the resiliency process amongst people with mental illness. Lastly, the use of multiple datasets affords the opportunity to offset some of the limitations within both datasets through the strengths of the other dataset. For example, the NCS-A data is a nationally representative, large sample, which contains broad diagnostic information. This strength within the NCS-A data can offset some limitations within Pathways such as limited diagnostic

information and small sample size. Similarly, Pathways is an extremely rich, longitudinal dataset that contains a broad variety of criminologically-focused variables, which can overcome the cross-sectional nature of the NCS-A.

Chapter 4:
Methodology

Sample- NCS-A

The National Comorbidity Study-Adolescent Supplement (NCS-A) is a national psychiatric epidemiological survey of adolescents with and without mental disorders (Merikangas et al., 2009). The NCS-A data include a household and in-school sample resulting in a dual-frame sampling design (Kessler et al., 2009a). Specifically, household surveys were given to adolescents who resided in households identified in the National Comorbidity Replication Study (NCS-R).

Briefly, the NCS-R households were selected based on a four-stage clustered area probability sampling design, resulting in representative households of non-institutionalized civilian population across the United States (Kessler et al., 2004). In the first stage of sampling, 62 primary sampling units were selected through a probability sample as identified in the US Bureau of the Census (year 2000) (Kessler et al., 2004). Specifically, primary sampling units were selected from all of the counties in the census-defined metropolitan statistical areas (MSA) as well as individual counties not defined in the MSA (Kessler et al., 2004). [5] Moreover, the primary sampling units were selected based on geographic stratification and probabilities proportional to size from all segments in the country (see Kessler et al., 2004, p. 74). In the second stage of sampling, 50-100 housing units were identified in each primary sampling unit

[5] Kessler and colleagues (2004) utilized MSA's identified through the census as well as counties not identified in the census-defined MSA. This resulted in 16 MSAs that were defined with certainty by the census, 31 non-certainty MSAs, and 15 non-MSA counties. The 16 MSA certainty selections included, "New York City, Los Angeles, Chicago, Philadelphia, Detroit, San Francisco, Washington DC, Dallas/Fort Worth, Houston, Boston, Nassau-Suffolk NY, St Louis, Pittsburgh, Baltimore, Minneapolis, and Atlanta" (Kessler et al., 2004, p. 74). The other 46 primary sampling units were systematically selected based on an ordered list of smaller areas in the country.

resulting in 1,001 area segments (Kessler et al., 2004). In the third stage of sampling, an interviewer recorded the addresses of all the housing units in each area segment. Each unit was recorded in a list and entered into a centralized computer data file and a random sample of housing units was selected from this list (Kessler et al., 2004). Finally, in the last stage of sampling, the researchers obtained a list of all the residents within the household from a household informant. Once the list of all the residents within a household was obtained, one to two respondents were selected to be interviewed in the NCS-R utilizing a probability procedure (i.e., the Kish table selection method) (Kessler et al., 2004).

Notably, the original intent of the NCS-A was to obtain a sample of adolescents residing within the NCS-R households. Because the number of adolescents residing within the NCS-R household sample was too low to reach the target sample of 10,000, a school-based sample was used to supplement the sample (Kessler et al., 2009a). Therefore, the NCS-A school sample was selected from a list of all licensed schools in the country provided by the government. Within the government list, accredited schools within the NCS-R counties were eligible (including both private and residential schools). Based on probabilities proportional in size of the student population in the classes relevant to the target sample of adolescents ages 13 to 17, a representative sample of middle schools, junior high schools, and high schools within the NCS-R counties were selected from the government list (see Kessler et al., 2009a, p. 3). After approval from the district, school recruitment consisted of contacting the individual schools' principals to obtain a list of students' families and contact information. Schools were initially provided $200 for their participation, but this was increased to $300 when more schools were needed. The target sample of schools was 289; however, only 81 schools agreed to initially participate. To supplement the school sample, multiple replacement schools were recruited, which matched the

initial refusal school in terms of demographic characteristics, geographic area, and school size (Kessler et al., 2009a). Through these recruitment efforts, a total of 320 schools were included in the survey, and forty to fifty eligible students were randomly selected for sampling (Kessler et al., 2009a).

Data collection began in 2001 and ended in 2004 resulting in 9,244 adolescents in the school sample and 904 adolescents in the household sample (n=10,148 respondents) (Kessler et al., 2009a). Upon receiving informed consent from both the parent and adolescent, interviews were administered through CAPI, a computer-assisted personal interview method. The interview was based off on the Composite International Diagnostic Interview (i.e., CIDI), but modified to ensure the instrument was relevant to the experiences and language of adolescents (Merikangas et al., 2009). For example, the CIDI modules were adapted to alter adult contexts (i.e., work life, parenting, etc.) to adolescent contexts (i.e., school life, peer relationships, etc.).

The NCS-A data contain information on people with and without mental disorders. Indeed, the purpose of the NCS-A was to provide nationally-representative estimates of the prevalence of DSM-IV mental disorders (i.e., anxiety disorders, mood disorders, behavior disorders, and substance disorders), as well as correlates and patterns of service use for adolescents (aged 13-17) with mental disorders (Merikangas et al., 2009). In addition to prevalence and service patterns, the NCS-A collected data on risk and protective factors associated with consequences of early expression of adult mental disorder (Merikangas et al., 2009). Specifically, information on the individual (e.g., socio-demographics, developmental factors, cognitive and academic abilities-achievements, physical health, stressful life events including victimization events), the family (e.g., family structure, stability and adaptability, parenting behavior, family stress), and environmental/contextual (e.g., school and neighborhood

characteristics) factors were collected lending valuable insight into resiliency from victimization for at-risk youth who have mental disorders.

Before multiple imputations, approximately 36% (3,671) of the sample was diagnosed with a mental illness within their lifetime. These diagnoses included bipolar spectrum disorders (5%), depression spectrum disorders (11%), substance related disorders (12%), impulse control disorders (14%), and childhood disorders (15%). A vast majority (81%) did not experience a victimization event (8,206) within their lifetime. Thus, approximately 19% (1,940) adolescents experienced a victimization event within their lifetime. The majority of the sample is White (56%), with 19% indicating they were Black, 19% indicating they were Hispanic, and 6% indicating they were an other race. Approximately half of the sample is male (49%), and the average age is 15.

Measures- NCS-A

Dependent variable.

Violent victimization. Violent victimization was captured through seven questions assessing if the participant had ever been (1) badly beaten up by parents, (2) badly beaten up by someone the participant was romantically involved with, (3) badly beaten up by anyone else, (4) mugged, held up, or threatened with a weapon, (5) raped, (6) sexually assaulted or molested, or (7) stalked by someone. Thus, if a respondent indicated that they had experienced any victimization event, they were scored as 1 and scored as 0 if they had never experienced a victimization event.

Mental health indicators.

As noted above, the NCS-A includes a sub-sample of adolescents who have a mental disorder. As such, diagnoses are based on the adolescents' and parents' responses to the

Composite International Diagnostic Interview (i.e., CIDI) to examine concordance (Kessler et al., 2009b). The CIDI is a fully structured interview in which trained lay interviewers generate DSM-IV diagnoses (Merikangas et al., 2009). Specifically, the CIDI can provide clinical diagnostic estimates for mood disorders (i.e., depression and bipolar-spectrum disorders), anxiety disorders, posttraumatic stress disorder, behavior disorders (i.e., attention deficit disorder, oppositional defiant disorder, conduct disorder), and eating disorders.[6]

The CIDI interview is divided into two parts. The first part is administered to all of the respondents. If the respondents did not meet a lifetime criteria for at least one of the mental disorders, or were not sampled into part II, the interview ended after a brief demographic questionnaire was administered.[7] Part I of the CIDI interview took an average of 34 minutes to complete (Kessler et al., 2004). If participants met the criteria for at least one mental disorder, or they were sampled into part II, they were administered part II of the interview (Kessler et al., 2004). Part II consisted of questions assessing risk factors, service usage, and other correlates related to mental disorders. For participants administered part II of the interview, the interview time, on average, lasted approximately two and half hours (Merikangas et al., 2009). Thus, the two-part structure of the CIDI allows for early termination of participants who do not show any

[6] To demonstrate validity of the CIDI, Kessler and colleagues (2009b) conducted blinded clinical reappraisal interviews with a random sub-sample of 347 NCS-A participants. Specifically, clinicians utilized a modified version of the semi-structured Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS) to assess consistency between the CIDI and K-SADS (Kessler et al., 2009b). Overall, the results demonstrated that the CIDI diagnostic threshold were generally consistent with the K-SADS thresholds, although there were two exceptions. These exceptions included specific phobia and oppositional-defiant disorders in which the CIDI produced higher prevalence estimates than K-SADS (Kessler et al., 2009b). For this reason, individuals diagnosed with specific phobia or oppositional-defiant disorders were excluded from the analyses.

[7] Part II of the CIDI was controlled by CAPI, which divided respondents into three stratums based on their responses to part I. The first stratum consists of respondents who either met a criterion for one of the mental disorders assessed, planned or attempted suicide, or met a subthreshold criteria and sought treatment for a mental illness sometime during their lifetime. The second stratum consisted of people who gave responses in part I that indicated they meet a subthreshold criterion for a mental illness, sought treatment for any emotional or substance problem, ever had suicidal ideation, or used any psychotropic medications in the past twelve months. The third stratum consisted of all other respondents in which 25% were selected to receive part II (see Kessler et al., 2004, p. 72).

evidence of any mental disorder and expanded questions of risk and protective factors for those who do show evidence of a mental disorder (Kessler & Ustun, 2004).

Within the CIDI, for some of the disorders there are diagnoses with and without diagnostic hierarchy rules. Briefly, a diagnostic hierarchy rule was created by the DSM-IV and is applied in instances in which Disorder X could not be diagnosed if it was due to Diagnosis Y (see Clark et al., 2017, p. 85). For example, using the hierarchy rule, generalized anxiety disorder would not be diagnosed if the symptoms of generalized anxiety disorder occur exclusively during another disorder such as a mood disorder (National Comorbidity Study, 2005). Similarly, substance abuse disorder would not be diagnosed if the participant met the criteria for substance dependence using the hierarchy rules. To accurately account for each participant's diagnosis, hierarchical diagnoses are utilized when appropriate. Further, following Kessler and Ustun's (2004) grouping of disorders (see p. 95), below are the grouping of diagnoses included in the analyses. [8]

Anxiety disorders. If the participant was diagnosed with panic disorder, agoraphobia without panic disorder, generalized anxiety disorder with diagnostic hierarchy, post-traumatic stress disorder (PTSD), or social phobia, the participant was coded as 1. If they were not diagnosed with any of the anxiety spectrum disorders, they were coded as 0 resulting in a dichotomous anxiety spectrum disorder measure.

Bipolar spectrum disorders. The bipolar-spectrum disorders included diagnoses of bipolar I, bipolar II, hypomania, or mania. Thus, if the participant was diagnosed with one of the

[8] The CIDI includes subthreshold diagnoses. That is, Kessler and Ustun (2004) have argued that some definitions of disorders that are required to reach clinical significance of distress or impairment provided by the DSM-IV are too restrictive and can narrow the number of people who qualify for treatment (see p. 102). To account for this, Kessler and colleagues included subthreshold diagnoses for certain disorders such as generalized anxiety disorder or bipolar disorder. To remain consistent with the DSM-IV's threshold of diagnoses, however, subthreshold diagnoses were also excluded from the analysis.

bipolar spectrum disorders, they were coded as a 1. If they were not diagnosed with a bipolar spectrum disorder, they were coded as a 0.

Depression spectrum disorders. Depression spectrum disorders included diagnoses of dysthymia with diagnostic hierarchy and major depressive disorder with diagnostic hierarchy. If the participant had been diagnosed with one of the depression spectrum disorders, the participant was coded as a 1. If they were not diagnosed with a depressive spectrum disorder, they were coded as a 0.

Substance-related disorders. Substance-related disorders included alcohol abuse with diagnostic hierarchy, alcohol dependence, drug abuse with diagnostic hierarchy, or drug dependence disorders. If the participant was diagnosed with one of these disorders, the participant was coded as a 1. If they were not diagnosed with a substance-related disorder, they were coded as a 0.

Impulse control disorder. The classification, impulse control disorder, only included one diagnosis of intermittent explosive disorder. Thus, if the participant was diagnosed with intermittent explosive disorder with diagnostic hierarchy, the participant was coded as a 1. If they were not diagnosed with this disorder, they were coded as a 0.

Childhood disorders. Childhood disorders included attention deficit disorder (ADD), separation anxiety disorder, or conduct disorder. If the participant was diagnosed with one of these childhood disorders, they were coded as a 1. If they were not diagnosed with a childhood disorder, they were coded as a 0.

Theoretically-derived risk factors.

As mentioned previously, risk factors must be identified in order to empirically test resiliency. For this reason, several risk factors will be included in the analysis as detailed below.

As will be discussed in the analytic section, some of these risk factors will be utilized to create a risk index, which will then be used to split the sample into a high- and low-risk group. For other resiliency models, risk factors will be included in models as direct effects or interactions.

Lifestyles/routine activities theory (L/RAT). As noted previously, L/RAT has been applied to help explain why people with mental illness are at elevated risk to experience victimization. To assess engagement in risk behaviors, a core component of L/RAT, two measures were included. First, the measure *crime perpetration* is included given that engaging in criminal activity is a significant risk factor in the victimization and mental health literature (Chapple et al., 2004; Honkonen et al., 2004; Johnson et al., 2016; Policastro et al., 2016; Silver et al., 2011; Teasdale, 2009; Teasdale et al., 2016; Walsh et al., 2003). To measure crime perpetration, participants were asked if they ever have committed a property crime, a violent crime, or any other type of crime, but did not get caught. Participants were also asked if they were ever arrested for committing a property crime, a violent crime, or any other type of crime. To assess the extent of criminal activity, the crime perpetration and arrest measures were combined together where people who have engaged in criminal activity were coded as a 1 and people who were not involved in criminal activity were coded as a 0. Second, the measure, *substance usage*, is included. As previously discussed, alcohol and drug use can increase the risk of victimization for people with mental illness (Brekke et al., 2001; Chapple et al., 2004; Goodman et al., 2001; Johnson et al., 2016; Hiday et al., 1999; Policastro et al., 2016; Teasdale, 2009; Teasdale et al., 2014; Walsh et al., 2003; White et al., 2006) and contribute to target suitability (Livingston et al., 2007; Small & Kerns, 1993). To measure substance usage, two measures were utilized. First, participants were asked if they ever used three different substances (e.g., cocaine, marijuana, etc.) without the recommendation of a doctor. Responses included yes

(1) and no (0). To assess the extent each participant uses substances, the three substance usage items were summed together resulting in a variety score where higher scores reflect greater usage of different types of substances. The second measure reflects if the participant drank alcohol in the past twelve months. Responses ranged from (0) did not drink alcohol in the past twelve months to (1) drank alcohol in the past twelve months. Another core component of L/RAT is lack of capable guardianship. To measure lack of capable guardianship, a *homelessness* measure is included, which is a significant risk factor for victimization amongst people with mental illness (Chapple et al., 2004; Goodman et al., 1997; Goodman et al., 2001; Hiday et al., 1999; Maniglio, 2009; Teasdale, 2009; Walsh et al., 2003; White et al., 2006). To measure homelessness, participants were asked if they had ever been homeless? Responses included yes (1) and no (0). Finally, to assess the presence of motivated offenders, another component of L/RAT, the measure, *delinquent peers*, is included in the analyses. As Schreck and colleagues (2004) argue, social ties to delinquent peer groups may be an indication of proximity to motivated offenders, which increases the risk of victimization (Schreck, Fisher, & Miller, 2004). To account for this possibility, participants were asked if their peers engaged in six different delinquent activities (i.e., carry a knife, gun or weapon, been arrested, etc.). Responses included yes (1) or no (0). Because exploratory factor analysis identified one latent construct and there was acceptable reliability (Cronbach's alpha= .764), these six items were then summed together to create a peer delinquency scale, where higher scores indicated greater exposure to peer delinquency.

Silver's (2002) theory of conflicted relationships. As noted previously, Silver (2002) hypothesizes and finds support for the notion that people with mental illness may be involved in conflicted relationships due to the grievances one may elicit when interacting with others. To

account for this possibility, a *conflicted relationships* measure is included.[9] To measure conflicted relationships, seven questions were utilized. Specifically, participants were asked to identify if, in the past twelve months, they were having serious ongoing disagreements or problems getting along with seven different relationships (e.g., romantic partner, friends, parents, etc.). Responses include yes (1) or no (0). Because these items tap into grievances (or negative emotions) with others, and show acceptable reliability (Cronbach's alpha = .652), the sum of the seven measures was taken to create a conflicted relationships scale, where higher scores indicate greater involvement in a number of conflicted relationships.

Felson's (1992) social interactionist theory. As discussed previously, when appropriate social interaction rituals are violated, a victimization experience may occur. The role of stress is a central concept in Felson's (1992) social interactionist perspective and is a significant risk factor in the victimization and mental health literature (Policastro et al., 2016; Silver et al., 2011). Additionally, Felson (1992) argues that negative life events and stress can lead a person to engage in behaviors that lead others to engage in social control attempts (i.e., negative life events could lead to aggression in social interactions). To empirically assess Felson's (1992) social interactionist perspective, scholars have used measures such as a stressful life event scale (e.g., Felson, 1992) as well as measures tapping into one's perceived stress (e.g., Teasdale, 2009). For this reason, a *number of stressful life events* measure is included.[10] Consistent with the Agnew

[9] Conceptually, Silver (2002) defines conflicted relationships as, "relationships in which their behavior elicits grievances (or negative emotions) in others" (p. 192). Empirically, Silver (2002) operationalizes conflicted relationships by identifying people the participant does not get along with as well as people with whom the participant upsets.

[10] The number of stressful life events was used to assess an accumulation of stressful life events that may have occurred within one's life during the past 12 months. In other words, this measure reflects the accumulation of stressful life events. This accumulation is thought to increase the consequences of stress. These items are different from conflicted relationships in that the items in this scale count events such as illness, loss of friends and family members, as well as financial and criminal justice related stressors. Conflicted relationships items, on the other hand, measure relationships that illicit strife in others. In other

and White's (1992) negative life events scale, which includes a number of negative events that have occurred to the participant such as death of a close friend, serious illness or injury, or divorce of one's parents, the current study utilizes twelve questions to tap into stressful life events. Specifically, participants were asked if during the past twelve months they had experienced twelve different stressful life events (e.g., break up with romantic partner, parents getting separated or divorced, etc.). Responses included yes (1) and no (0). To create a number of stressful life events scale, each event was summed together resulting in a variety score where higher scores indicate a greater number of stressful life events that have occurred.

Risk factors established by prior scholarship.

Correctional facility. Prior scholars have found that being in a correctional facility increases the risk of a victimization event occurring amongst people with mental illness (Blitz et al., 2008; White et al., 2006; Wolf et al., 2007). To create a correctional facility measure, participants were asked if they were ever in a jail, prison, or correctional facility. Thus, if a participant indicated that they were in a correctional facility they were coded as a 1. If the participant had not been in a correctional facility, they were coded as a 0.

Impulsivity. Given that low self-control is a significant risk factor in victimization research (see Schreck, Stewart, & Fisher, 2006), impulsivity was included as a risk factor. Specifically, seven statements were utilized to assess impulsivity. Examples include statements such as, "I often do things without thinking when I get emotional," or, "I have a very hard time resisting temptations". Responses included not at all true (0), not very true (1), somewhat true (2), or very true (3). To create an impulsivity scale, the mean of the seven statements were taken together, where higher values indicate higher impulsivity (Cronbach's alpha= .759).

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words, the conflicted relationships measure focuses on current relationships in which the participant may not get along with others.

Sensation seeking. It is possible that for people high in sensation seeking behaviors, these participants may expose themselves to risky situations, which may lead to a victimization event. To account for this possibility, six statements were utilized to measure the extent one may engage in sensation seeking behaviors. Examples include statements such as, "I like doing things for the thrill of it," or, "I sometimes like to do things that are a little frightening". Responses included not at all true (0), not very true (1), somewhat true (2), or very true (3). The mean of the six statements were then taken together, where higher scores indicate greater sensation seeking behaviors (Cronbach's alpha = .708).

Anger. It is also possible that people who are quick to anger may find themselves in situations that are conducive to victimization. That is, if a person is quick to anger and is unable to control aggressive impulses, an emotional predisposition known as trait anger (Spielberger et al., 1995), they may respond to provocation with violence; this, in turn, may lead to others victimizing the person in response. Trait anger differs from state anger in that state anger is a temporary effect of specific events, whereas trait anger is a dispositional factor (Spielberger et al., 1995). To account for trait anger, six statements were utilized. Examples include, "I have a very strong temper," or, "When people shout at me, I shout back". Responses included not at all true (0), not very true (1), somewhat true (2), or very true (3). The mean of the six statements were then taken together, where higher scores indicate greater anger (Cronbach's alpha = .806).

Employment. Considering that prior scholars have found that unemployment significantly increases the odds of a victimization event occurring (Policastro et al., 2016), an employment measure was included. Specifically, participants were asked if they currently have a job. Responses include yes (1) and no (0).

Risk factors specific to people with mental disorders.

Hospitalization. As previously discussed, being hospitalized is a significant risk factor in the victimization and mental health literature (Daquin & Daigle, 2017; Goodman et al., 2001). That is, recent hospitalizations can be an indication of illness severity, which can ultimately lead to a victimization event (Goodman et al., 2001). The question, "have you ever stayed overnight in a hospital or other facility for problems you were having with emotions or behaviors?" will be utilized. Responses included yes (1) and no (0).

Medication non-compliance. Prior scholars have found that medication non-compliance, which can lead to an increase in psychiatric symptomology, significantly increases the risk of a victimization event amongst people with mental illness (Hodgins et al., 2009). For this reason, a medication non-compliance measure was included. Specifically, the question, "in the past twelve months, did you forget to take your medication or took less of your medication than you were suppose to?" was utilized. Responses included yes (1) and no (0).

Poor occupational functioning. As demonstrated by prior research, poor occupational functioning, which can be an indication of illness severity, is a significant risk factor in the victimization and mental illness literature (Chapple et al., 2004; Fitzgerald et al., 2005). To account for this, the question, "are you limited in the kind or amount of work you can do because of any problems with your physical or emotional health?" will be utilized. Responses include yes (1) or no (0).

Individual-level protective factors.

Positive affect. Consistent with the literatures on resiliency and negative outcomes (Scheier et al., 2000) and resiliency amongst special populations (Kumpfer, 2002), positive affect will be included as a protective factor. Specifically, participants were asked how often, within the past thirty days, they felt four different positive emotions (i.e., confident, happy, etc.)

Responses included (0) none of the time, (1) a little bit of the time, (2) some of the time, (3) most of the time, or (4) all the time. Because exploratory factor analysis identified one latent construct, and the items showed acceptable reliability (Cronbach's alpha= .737), the mean of the four items was then taken, resulting in a positive affect scale where higher scores indicate greater positive affect.

Self-esteem. Self-esteem is a significant protective factor in the negative outcomes literature (Byrne & Mazanov, 2001; Resnick et al., 1997) as well as within the special populations and resiliency literature (Cosden, 2001; Morrison & Cosden, 1997). Given that the construct of self-esteem is multi-faceted, the current study measures self-esteem in two ways. The first is through people's specific self-evaluations (see Pelham & Swann, 1989). In accordance with Pelham and Swann (1989), self-esteem was measured through participant's ranking of themselves (on a scale of 1-10) on five domains (e.g., ability to play sports, physical attractiveness of their face, etc.). To create a *perception of self-scale*, the mean of the five items were taken, where higher scores indicate greater rankings of one's self (Cronbach's alpha = .790). Notably, exploratory factor analysis identified one latent construct for the perception of self-scale. The second measure of self-esteem is a global assessment of one's self. Specifically, a shortened version of Rosenberg's (1965) self-esteem scale was utilized in which four statements were utilized. Examples of these statements include "overall, I am satisfied with myself," or "at times I think I am no good at all" (reverse coded). Response included (0) not at all true, (1) a little true, (2) somewhat true, or (3) very true. Because exploratory factor analysis identified one latent construct, and the items showed acceptable reliability (Cronbach's alpha= .721), a *global assessment of self-esteem scale* was created by taking the mean of the four statements, where higher scores indicate greater self-esteem.

Religiosity. Within the negative outcomes (Barkin et al., 2001; Wills et al., 2003; Wright et al., 2016) and special populations (Rutten et al., 2013) and resiliency literatures, religiosity is a significant protective factor. Prior research on victimization suggests operationalizing religiosity through frequency of attending church and importance of religion to the participant (Schreck et al., 2007). Scholars within the resiliency literature suggest operationalizing religiosity through variables that assess internal religiosity (e.g., Wills et al., 2003). Because both measurement strategies scale well together and exploratory factor analysis identified one latent construct, four questions were utilized for the religiosity scale (e.g., how often do you attend religious services?). To create a religiosity scale, the four questions were standardized and the mean was taken, where higher scores indicate greater religiosity (Cronbach's alpha= .880).

Self-efficacy. Self-efficacy refers to personal judgments of one's abilities to attain designated goals, organize and execute course of actions, and aptitude to organize their psychological functioning (Bandura, 1977). Because self-efficacy is a significant protective factor in the negative outcomes and resiliency literature (Santelli et al., 2004), a self-efficacy measure was created for the current study. Specifically, participants were asked to rank their ability (e.g., poor, fair, good, excellent) considering eleven different scenarios. Examples include the participants' ability to stay calm and think of the right thing to do in a crisis or ability to control their emotions when they need to stay in control. The mean of these eleven items was then taken, where higher scores indicate greater self-efficacy (Cronbach's alpha= .813).

Intelligence. Because verbal IQ is a significant protective factor in the victimization and resiliency literature (Daigle et al., 2010), it is also possible intelligence will also be a significant protective factor in the current study. To test this assertion, the Kaufman Brief Intelligence Test (K-BIT) is utilized (Kaufman & Kaufman, 1990). Briefly, K-BIT provides estimates of

intelligence through matrix and vocabulary subtests. The vocabulary subtest includes two domains including expressive vocabulary and definitions. The matrices subtest includes multiple-choice matrix analogies (Prewett, 1992). To determine a participant's intelligence score, the sum of the two scores (a total of 48 questions) is calculated and then converted into a total IQ composite score. Thus, the total K-BIT score is utilized to assess intelligence (Cronbach's alpha = .987).

Protective factors related to social support.

Peer support. As mentioned earlier, social support, in particular peer support, is a significant protective factor in the resiliency and victimization (Daigle et al., 2010), negative outcomes (Crosnoe & Elder, 2004), and special populations (Bariola et al., 2015; Bockting et al., 2013; Budge et al., 2013; Fredriksen-Goldsen et al., 2013; Mizock & Lewis, 2008; Nemoto et al., 2011; Scourfield et al., 2008; Singh et al., 2011; Singh & McKleroy, 2011; Singh et al., 2014) literatures. Scholars have indicated that the domains such as involvement of social support and supportiveness of peers are important components that should be considered (Hartup, 1993). Because of this, three questions were utilized to assess peer support (e.g., "how much can you rely on your friends for help if you have a serious problem?"). Since exploratory factor analysis identified that the measures were one latent construct, and there was acceptable reliability (Cronbach's alpha= .600), a peer support measure was created. Specifically, the three measures were standardized and the mean was taken, where higher scores indicate greater peer support.

Adult social support. Another type of social support that has been shown to be a significant protective factor within the resiliency and negative outcomes (Hart et al., 2007) and special population (Afifi & MacMillan, 2011; Bowes et al., 2010; Osgood et al., 2010) literatures is adult social support. To measure adult social support, two questions were utilized.

Specifically, participants were asked to list how many adults they felt comfortable talking to about personal problems and to list how many adults who have cared a lot about how they turned out and would help the participant if they got in trouble. To account for adult social support, the two measures were combined and the natural log was taken to account for the skewness of the variable resulting in an adult social support measure. Higher numbers indicate greater adult social support.

Family social support. To account for social support provided by the family, three potential family protective factors are included. First, considering that family connectedness is a significant protective factor in the negative outcomes and resiliency literature (Farrell & White, 1998; Fleming et al., 2002; Resnick et al., 1997), a *family connectedness* measure is included in the analysis. Each participant was asked nine different questions assessing how connected their family was to one another. Examples include asking how often the family members felt very close to one another or how often the family did things together. Responses included (0) never, (1) some of the time, (2) most of the time, or (3) all of the time. Because exploratory factor analysis identified one latent construct, and the items showed acceptable reliability (Cronbach's alpha= .851), a family connectedness scale was created by taking the mean of the nine items, where higher scores indicate greater family connectedness. Second, since parental connectedness is a significant protective factor in the negative outcomes and resiliency literature (Farrell & White, 1998; Fleming et al., 2002; Resnick et al., 1997), it is possible it will also be protective in preventing victimization amongst people with mental illness. For this reason, a *parental connectedness* measure was created.[11] Specifically, each participant was asked five different

[11] For all of the measures related to the parents, the same questions were asked about the participants' fathers; however, many of the participants indicated that those questions were not applicable resulting in participants not reporting any data for those measures. Thus, for the measures assessing support provided by parents, questions related to the participants' fathers, were excluded due to the high number of missing data.

questions assessing the participant's relationship to their mother. Examples include how emotionally close they were to their mother growing up or how much love and affection did she give them. Responses included (0) not at all, (1) a little, (2) some, or (3) a lot. Since exploratory factor analysis identified one latent construct, and the items showed acceptable reliability (Cronbach's alpha= .765), a parental connectedness scale was created, where the mean of the five items was taken, with higher scores indicating higher connectedness to the participant's mother. Third, given that parental monitoring is a significant protective factor in the victimization and resiliency literature (Christiansen & Evans, 2005), it is possible it will also be protective amongst people with mental illness. To operationalize *parental monitoring*, the following three questions were utilized. Examples include how much the participant's mother stopped them from doing things that other kids their age were allowed to do or how strict she was with her rules for the participant. Responses included (0) not at all, (1) not very, (2) somewhat, and (3) very. Because exploratory factor analysis showed that the measures scaled together as one latent construct, the mean of the three items was then taken, resulting in a parental monitoring scale in which higher scores indicate greater parental monitoring (Cronbach's alpha= .611).

Protective factors related to institutions and neighborhoods.

Connection to school. Prior research suggests that amongst adolescents, connection to school appears to be especially important. For this reason, two measures were included to assess adolescents' connection to school. First, a *grades* measure is included. Within the resiliency and negative outcomes literature, school achievement is a significant protective factor (Lammers et al., 2000; Magnani et al., 2002). One such way to operationalize school achievement is through the participant's grades. Two separate questions were asked to current and past students. For

current students, the question, "what kind of grades do you get?" was utilized. For past students, the question, "what sort of grades did you get in your last years at school?" was used. Responses included (0) below average, (1) average, (2) above average. The two questions were then combined to create a grades measure, which captures both participants in school and out of school. Second, a *commitment to school* measure is included given that commitment to school is a significant protective factor within the victimization and resiliency literature (Daigle et al., 2010; Lauritsen et al., 1992). Specifically, participants were asked nine different statements about their perceptions of school. Examples include if the participant like/liked school or if getting good grades is/was important to them. Responses included (0) not at all true, (1) not very true, (2) somewhat true, or (3) very true. Since the items showed acceptable reliability (Cronbach's alpha= .790), and exploratory factor analysis showed that the measures scaled together as one latent construct, the mean of all of the items was taken to create a commitment to school scale. Higher scores indicate greater commitment to school.

Neighborhood cohesion. Because neighborhood cohesion is a significant protective factor in the victimization and resiliency literature (Christiansen & Evans, 2005), it is possible it will also be a significant protective factor in the current study. Prior research indicates that neighborhood cohesion can be assessed three ways including attraction to neighborhood, psychological sense of community, and degree of neighboring (Buckner, 1988). In accordance with Buckner (1988), the factors utilized in the current study tap into the degree of neighboring as well as psychological sense of community. Specifically, three questions were utilized to assess neighborhood cohesion (e.g., how many people do you know by name in your neighborhood?; how often do you have a conversation or hang out with any of the people in your neighborhood?; how happy are you living in your neighborhood?). Because exploratory factor analysis showed

that these factors were measuring a single latent construct, the three items were standardized and then the mean was taken resulting in higher scores reflecting greater neighborhood cohesion (Cronbach's alpha= .564).

Protective factor related to having a mental illness.

Service utilization. Although prior research has not assessed service utilization in relation to resiliency, it is possible that service utilization will be a significant protective factor amongst people with mental illness. It is possible that service utilization will result in a reduction in some risk factor such as symptomology, ultimately protecting people with mental illness from victimization. To test this assertion, a service utilization measure was created. Specifically, participants were asked if they have utilized a variety of services for help with their emotions, behaviors, or drug/alcohol abuse within the past twelve months including: (1) self-help groups, (2) hotlines, or (3) psychological counseling or therapy that lasted 30 minutes or longer. Responses included yes (1) or no (0). Thus, if a participant had utilized any of these services, they were coded as a 1 and coded as a 0 if they had not utilized any services.

Control Measures.

Age. The age of the respondent will be included as a control variable. Specifically, age is a continuous variable that reflects how old the participant was during the interview.

Race. Four dummy variables, including White, Black, Hispanic, and Other will be utilized to control for race, with White serving as the referent category.

Gender. A dichotomous indicator of gender will be included as a control variable. Specifically male is coded as 1 and female is coded as 0.

Socioeconomic status. To control for socioeconomic status, a poverty index ratio will be included. The poverty index ratio is based on the ratio of family income to family's poverty

threshold level and family size (Merikangas et al., 2010). Specifically, a categorical measure of the poverty index ratio will be included in which household income is less than 1.5, less than or equal to 3, less than or equal to 6, or greater than 6 times the poverty line (Merikangas et al., 2010). The referent group is greater than 6 times the poverty line.

Sample—Pathways

Data were drawn from the Pathways to Desistance study, a longitudinal study of 1,354 serious adolescent offenders (Mulvey, 2004). Recruitment of participants took place between November 2000 and January 2003 in two sites: Philadelphia, PA and Maricopa County, AZ. To be eligible for enrollment in the study, a youth must have been between the ages of 14 and 17 years old at the time they committed their offense and found guilty of a serious offense (predominately felonies). Participants were selected at each court site within the two counties by a review of their records (Mulvey, 2004).

Upon obtaining informed consent, the adolescents were interviewed shortly after their adjudication hearing (i.e., baseline interview) (Schubert et al., 2004) and then were interviewed ten times for follow-up interviews. The first six follow-up interviews were conducted every six months for a total of three years. Follow-up interviews were then conducted every twelve months, with data collection continuing through 2010. Data were collected at either participants' homes, public places such as libraries, or in facilities and were conducted through computer-assisted interviews (Schubert et al., 2004). Notably, the self-reported information gathered through the youth are supplemented and validated through the use of official record information (i.e., court records, FBI records of arrest, etc.) and interviews with collateral informants. Relevant to the current study, interviews covered a variety of domains including demographic characteristics, psychiatric diagnoses, and offense history (Schubert et al., 2004). Moreover,

indicators of individual functioning (e.g., substance abuse, symptomology, antisocial behavior), psychosocial development and attitudes (e.g., impulse control, susceptibility to peer influence, etc.), family context (e.g., quality of family relationships, etc.), personal relationships (e.g., quality of friendships), and community context (e.g., neighborhood characteristics) were collected (Schubert et al., 2004), which collectively are potential sources of risk and protective factors for at-risk youth who have mental disorders.

For the current study, the baseline interview and the first six follow-up interviews will be utilized. Specifically, the baseline interview will be used for the independent and control variables and the six follow-up interviews will be utilized to assess the dependent variable, violent victimization. There are several reasons the analysis was limited to the first six follow-up waves. First, the time period between the follow-up interviews changes after wave 6, moving from every six months to every twelve months. Second, because crime victims can have difficulty recalling incidents, shorter reference periods are ideal to accurately recall victimization experiences (Daigle, Snyder, & Fisher, 2016). Specifically, Cantor and Lynch (2000) note that in order to increase accuracy in recalling victimization incidents reference periods should be no longer than six months. Lastly, to remain consistent with the developmental time period, the baseline and first six follow-up waves should be utilized. More specifically, the baseline and first six follow-up interviews spans across adolescence and late-adolescence, the time period of interest for the current dissertation.

Before multiple imputations, approximately 48% (643) of the sample met the diagnostic criteria for a mental illness within their lifetime. These diagnoses include substance related disorders (43%; 587) and mood related disorders including depression spectrum, bipolar spectrum, and anxiety spectrum disorders (14%; 194). Additionally, a little over half of the

sample (55%) did not experience a victimization event (749) during waves one through six. Thus, approximately 43% (586) adolescents experienced a victimization event within the first six follow-up waves. The majority of the sample is non-White, with 41% indicating they were Black, 34% indicating they were Hispanic, 20% indicating they were White, and 5% indicating they were an Other race. The majority of the sample is male (86%), and the average age is 16.

Measures—Pathways

Dependent variable.

Violent victimization. To assess violent victimization, the participants were asked if they experienced any of the following six events: (1) ever been chased and thought they could be hurt, (2) ever been beaten up by another, (3) ever been attacked with a weapon, (4) ever been raped or sexually attacked, (5) ever been shot at, or (6) ever been shot and hit. If the participant had experienced one of these events in waves 1-6 they were coded as 1 and coded as 0 if they had not been victimized during waves 1-6.

Mental health indicators.

To assess mental health within the Pathways sample, the Composite International Diagnostic Interview (i.e., CIDI) was utilized (World Health Organization, 1990). The CIDI is a comprehensive and fully structured interview that is used to assess mental disorders. Specifically, utilizing definitions from the Diagnostic and Statistical Manual of Mental Disorders, 4th revision (i.e., DSM-IV) and the International Classification of Disease-10th revision (i.e., ICD-10), the CIDI provides lifetime (i.e., "Ever") and current (i.e., "Past year") diagnoses (Kessler & Ustun, 2004). On average, the CIDI takes approximately 2 hours to complete, varying widely depending on the number of diagnostic sections the respondents positively screens into (Kessler & Ustun, 2004). The interview is structured in two parts, which

allows for early termination of the interview for respondents who do not show evidence of lifetime mental illness (Kessler & Ustun, 2004).

Amongst the Pathways sample, the entire CIDI was not administered. Rather, eight modules were selected including: (1) major depressive disorder, (2) dysthymia, (3) manic episode, (4) posttraumatic stress disorder, (5) alcohol abuse, (6) alcohol dependence, (7) drug abuse, and (8) drug dependence (Pathways to Desistance, n.d.a). Participants were asked a series of screening questions assessing symptoms of these eight selected mental disorders. If the participant selected positive responses to the screening items, detailed questions to assess if the endorsed symptom is part of a psychiatric symptom or due to something else (such as medication, drugs, etc.) were then asked. Additional questions to establish onset and recency of the symptoms are subsequently asked if the questions endorsed occur in a pattern that suggests a diagnosis may be present (Pathways to Desistance, n.d.a).

Two measures were created at baseline to account for ***mental illness diagnoses***. First, *substance related diagnoses* were grouped together including alcohol abuse, alcohol dependence, drug abuse, and drug dependence. Thus, if the participant met the diagnostic criteria for one of the substance related diagnoses within their lifetime, they were coded as a 1 and coded as a 0 if they did not meet the diagnostic criteria. Second, *mood related diagnoses* were grouped together, which included major depression, dysthymia, post-traumatic stress disorder, and mania.[12] If the participant met the diagnostic criteria for one of these mood disorders within their lifetime, they were scored as a 1 and scored as a 0 if they did not positively endorse any of the disorders.

Theoretically-derived risk factors.

[12] The four mood related diagnoses were grouped together due to low number of people endorsing each of these disorders.

Lifestyles/routine activities theory (L/RAT). Six measures are used to assess the core components of L/RAT. First, to assess engaging in risky behaviors (an important factor in L/RAT), three measures are utilized including *crime perpetration, binge drinking,* and *drug usage.* More specifically, to measure crime perpetration an adaption from Huizinga, Esbensen, and Weihar's (1991) scale of self-reported offending was utilized. Participants were asked if they had engaged in 21 illegal and antisocial activities during the previous six months (Cronbach's alpha= .853). Examples include stealing a car, damaging/destroying property, or shoplifting. If the participant indicated that they had engaged in one of these behaviors within the past six months, they were scored as a (1). If the participant had not engaged in any of the offending behaviors, they were scored as a (0). To measure binge drinking, participants were asked if they had five or more drinks at a time. Responses include yes (1) and no (0). Finally, the measure of drug usage reflects if the participant engaged in any type of drug use within the previous six months. Participants were asked if they used ten different illegal drugs (i.e., marijuana, cocaine, etc.) (Cronbach's alpha= .720). If the participant indicated they had used any of the ten different illegal drugs, they were coded as a 1 and coded as a 0 if they had not engaged in any drug use. Second, to assess lack of capable guardianship (a core component of L/RAT), an *unstructured activities* measure is included. The items were drawn from the "Monitoring the Future Questionnaire", which assesses routine activities in relation to individual deviant behavior (Osgood et al., 1996). To assess the degree of absence of an authority figure, four questions were used (e.g., "how often did you get together with friends informally?") to assess unstructured activities. Notably, these four items were also used by Osgood and colleagues (1996) to measure routine activities. Response options include (1) "never" to (5) "almost every day". The mean of the four items was taken to create an unstructured activities measure, as long as there is valid

data on three of the four items (Cronbach's alpha= .620). Higher scores indicate greater time spent in unstructured socializing. Third, to assess proximity to motivated offenders, a *delinquent peers* measure is included given that prior research has found that having social ties to delinquent peers significantly increases the risk of a victimization event occurring (Schreck, Fisher, & Miller, 2004). Specifically, the peer delinquency scale contains 19 items in which participants were asked if their peers engaged in a number of antisocial behaviors during the last six months (e.g., "during the last six months how many of your friends have sold drugs?", "during the last six months how many of your friends have carried a gun?"). Response options ranged from (0) "none of them" to (4) "all of them". Thus, to create the peer delinquency scale, the mean of the 19 items where higher scores indicate greater number of peers engaging in delinquent behaviors (Cronbach's alpha= .941).

Felson's (1992) social interactionist theory. As mentioned prior, negative symptomology related to mental illness can lead a person to engage in behaviors that elicit social control attempts by others (i.e., behaving in bizarre ways that violate social norm rituals). In line with prior scholarship, which utilizes measures of symptomology to assess this theory (Daquin & Daigle, 2017; Teasdale, 2009), two symptomology measures are included. First, a *negative symptomology* measure is included. Although symptomology has been measured through a variety of scales and proxies, one method used by previous scholars is through the Brief Symptom Inventory scale (BSI) (see Hiday et al., 2002). The BSI is a self-report inventory containing 53 items in which the participants rate the extent to which they have been bothered in the past week by various symptoms (Derogatis & Melisaratos, 1983). Ratings include (0) "not at all" to (4) "extremely". The BSI contains global indices to assess a participant's general psychiatric distress. Because the global severity index is the, "single best indicator of current

distress levels" (Derogatis & Melisartos, 1983, p. 597), and prior scholarship has used global indices to assess symptomology (Brekke et al., 2001; Hiday et al., 2002; Johnson et al., 2016; Silver et al., 2011; Teasdale, 2009; Teasdale et al., 2014), the *global severity index (GSI)* is used to assess symptomology.[13] Briefly, the GSI combines the number of symptoms as well as the intensity of perceived distress (Derogatis & Melisartos, 1983). Higher scores on the GSI indicate greater psychiatric distress. Secondly, a measure of *delusional beliefs* is also included. Approximating measures utilized in the threat/control-override questionnaire (Link et al., 1999; Link et al., 1998) and measures used in the MacArthur-Maudsley Delusions Assessment Scale (MMDAS) (Monahan et al., 2001), two questions were used to measure delusional beliefs. These questions include, "within the past seven days, has your mind been dominated by forces beyond your control?" and "within the past seven days, how often have you had thoughts in your head that were not your own?". If the participant answered yes to either question, they were scored as a 1 and if they answered no to the questions they were scored as a 0.

Risk factors established by prior scholarship.

Correctional facility. Considering that residing in a correctional facility is a significant risk factor for victimization within the mental health literature (Blitz et al., 2008; White et al., 2006; Wolf et al., 2007), a correctional facility measure is included. Specifically, participants were asked if within the past six months they had stayed overnight in a detention center, jail, or prison. Responses included yes (1) and no (0).

Impulsivity. Given that low self-control and victimization are related (Schreck, Stewart, & Fisher, 2006), impulsivity is included as a risk factor. Drawn from the Weinberger Adjustment Inventory (Weinberger & Schwartz, 1990), which assesses one's social and emotional

[13] The GSI measure was provided by Pathways and reflects the mean of all of the subscales scores. As such, reliability statistics were not calculated.

adjustment within the context of external constraints, the impulse control subscale was utilized to assess impulsivity. The impulse control subscale consists of eight items and examples include, "I will try anything once even if it is not safe," or, "I do things without giving them enough thought". Response options ranged from (0) false to (4) true. The measure of impulsivity was created by taking the mean of the eight items, as long as six of the eight items had valid scores (Cronbach's alpha= .760). Higher scores reflect greater impulsivity.

Aggression. As hypothesized earlier, it is possible that people who are aggressive or quick to anger may be placed in situations that are conducive for a victimization event. As such, an aggression measure is included as a risk factor. Drawn from the Weinberger Adjustment Inventory (Weinberger & Swartz, 1990), the suppression of aggression subscale is used (e.g., "people who get me angry better watch out", "I say something mean to people who upset me", etc.). Specifically, the mean of the suppression subscale was taken to create the aggression measure, as long as five of the seven items had valid scores (Cronbach's alpha= .780). Higher scores reflect poorer aggression suppression.

Employment. Because unemployment is a significant risk factor for victimization for people with mental disorders (Honokon et al., 2014; Policastro et al., 2016), an employment measure is used. Specifically, participants were asked if they were currently employed. Responses included yes (1) and no (0).

Neighborhood disadvantage. Silver (2002) established that neighborhood disadvantage is a significant risk factor for victimization amongst people with mental illness. As such, a measure of neighborhood disadvantage is included as a risk factor. Specifically, the mean of 21 items was taken to create a neighborhood disadvantage scale (e.g., "cigarettes on the street or in

the gutters", "adults fighting or arguing loudly", "people using needles or syringes to take drugs"), as long as there was valid data for 16 of the 21 items (Cronbach's alpha= .940).

Gang Membership. Because gang membership is associated with the higher rates of violent victimization (Peterson et al., 2004; Taylor et al., 2007; Taylor et al., 2008), a measure of gang membership is included as a risk factor. Gang membership is a self-reported measure on whether or not the respondents indicated that they were part of a gang. Responses included yes (1) and no (0).

Gun carrying. Prior research has established that carrying a gun can lead to a victimization event (Watts, 2019). To account for this possibility, a gun carrying measure is included as a risk factor. Specifically, participants were asked if they were carrying a gun during the previous six months. Response included yes (1) and no (0).

Risk factors specific to people with mental disorders.

Hospitalization. As previously stated, hospitalization is a significant risk factor for victimization for people with mental disorders (Daquin & Daigle, 2017; Goodman et al., 2001). To measure hospitalization, participants were asked if they had stayed overnight in a psychiatric hospital within the previous six months. Responses included yes (1) and no (0).

Psychopathy. Daigle and Teasdale (2018) established that people higher in psychopathic traits are at a greater risk for a victimization event to occur. For this reason, a measure of psychopathy is included as a risk factor. Psychopathy is measured through the Psychopathy Checklist: Youth Version (PCL-YV), which is a semi-structured interview to assess the participant's functioning and interpersonal style. Twenty questions were asked in an open-ended format in which the participant is rated on a three-point scale including (0) item does not apply to the youth, (1) item applies to certain extent, and (2) item applies to youth. These twenty items are

then summed to create a total psychopathy score. The inter-rater reliability for scoring the overall score was found to be acceptable (ICC=.920) (Pathways to Desistance, n.d.c). A psychopathy measure was created through using a prorated PCL-YV score, which can accurately reflect scores when up to five items are missing (Pathways to Desistance, n.d.c).

Individual-level protective factors.

Religiosity. Religiosity is a significant protective factor in both the negative outcomes (Barkin et al., 2001; Wills et al., 2003; Wright et al., 2016) and special populations (Rutten et al., 2013) and resiliency literatures. As such, religiosity is included as a protective factor. The measure of religiosity captures the importance of religion, frequency of attending church, and feelings towards religions. Five questions are used to assess religiosity (e.g., how often did you attend church in the past year, how important has religion been in your life). To create a religiosity scale, the five items were standardized and the mean was taken, where higher scores indicate greater religiosity (Cronbach's alpha= .704).

Identity. Prior research has established that attributes related to one's self such as self-esteem are significant protective factors (Byrne & Mazanov, 2001; Cosden, 2001; Morrison & Cosden, 1997; Resnick et al., 1997). Although not previously explicitly explored, it is possible that one's sense of identity is a significant protective factor against victimization. To measure identity, a subscale of the psychosocial maturity inventory (PSMI) is used. The identity subscale contains ten items that measure self-esteem, clarity of one's self, and consideration of life goals (e.g., "I change the way I feel and act so often that sometimes I wonder who the real me is"). Response options include (1) strongly agree to (4) strongly disagree. To create an identity measure, the mean of the ten items is taken, as long as there is valid data for eight of the ten items (Cronbach's alpha= .780).

Self-reliance. As mentioned previously, self-efficacy, a significant protective factor in the negative outcomes and resiliency literature (Santelli et al., 2004), refers to one's abilities to attain designated goals and organize/execute courses of actions (Bandura, 1977). To tap into self-efficacy a measure of self-reliance (another subscale of the PSMI) is used. Specifically, ten items assess one's internal feelings of control and ability to make decisions without reliance on others (e.g., "luck decides most things that happens to me"). Response options include (1) strongly agree to (4) strongly disagree. To create a self-reliance measure, the mean of the ten items is taken, as long as there is valid data on eight of the ten items (Cronbach's alpha= .770).

Intelligence. Intelligence is a significant risk factor in the victimization and resiliency literature (Daigle et al., 2010). To measure intelligence, the Wechsler Abbreviated Scale of Intelligence (WASI) is used (Wechsler, 1999). The WASI consists of two subtests, vocabulary and matrix reasoning, and provides a general estimate of intellectual ability. When compared to the Kaufman Brief Intelligence Test (i.e., the intelligence test used in the NCS-A), Hays and colleagues (2002) finds that both K-BIT and WASI produce similar constructs of intelligence. Notably, the WASI can tap into a broader variety of cognitive functions than the K-BIT scale (Hays et al., 2002). To measure a participant's intelligence score, the full IQ scale is used, which is scored by the interviewer administering the test utilizing the formula specified by the WASI Administrator Manual (Pathways to Desistance, n.d.e). Higher scores indicate greater intellectual functioning.

Emotional regulation. A participant's ability to regulate one's emotions and actions is likely to be a significant protective factor in preventing victimization experiences. That is, if a person is able to regulate extreme emotions rather than reacting to them, it is possible they would not be in situations that are conducive to victimization. For this reason, an emotional regulation

measure is included. Specifically, a subset of the Walden's self-regulation scale, which evaluates a participant's ability to regulate emotions, is used. Nine items are used (e.g., "I can calm myself down when I get very upset", "I control my feelings very well") with response options ranging from (1) not at all like me to (4) really like me. To create the emotional regulation scale, the mean of the nine items was computed as long as there is valid data for six of the nine items (Cronbach's alpha= .810). Higher scores indicate greater ability to regulate emotions.

Future expectations. As shown in the resiliency and negative outcomes literature, future expectations is a significant protective factor (Bryant et al., 2003). To assess future expectations, *future outlook* is used. Specifically, participants were asked eight questions to assess the degree to which one considers the future (e.g., "I will keep working at difficult, boring tasks if I know they will help me get ahead later"). Responses range from (1) "never true" to (4) "always true". A future outlook measure was created by taking the mean of the eight items as long as there was valid data for six of the eight items (Cronbach's alpha= .710). Higher scores indicate greater degree of future consideration.

Protective factors related to social support.

Peer social support. Peer social support is a significant protective factor in the resiliency and victimization (Daigle et al., 2010), negative outcomes (Crosnoe & Elder, 2004), and special populations (Bariola et al., 2015; Bockting et al., 2013; Budge et al., 2013; Fredriksen-Goldsen et al., 2013; Mizock & Lewis, 2008; Nemoto et al., 2011; Scourfield et al., 2008; Singh et al., 2011; Singh & McKleroy, 2011; Singh et al., 2014) literatures. To measure peer support, participants were asked to provide a global rating across their five closest friends (i.e., average their responses across the five friends). Ten items were included in the scale (e.g., "how much can you count on the people for help with a problem?", "how much do you depend on these

friends?"). Response options ranged from (1) not at all to (4) very much. To create the peer support scale, the mean of the ten items were taken, as long as there was valid data on seven of the ten items (Cronbach's alpha= .740).

Adult social support. As discussed previously, social support from adults within a youth's life is a significant protective factor within the negative outcomes (Hart et al., 2007) and special populations (Afifi & MacMillan, 2011; Bowes et al., 2010; Osgood et al., 2010) literatures. Drawing from questions asking participants about eight different domains (e.g., adults you admire and want to be like, adults you could talk to if you needed information or advice about something, etc.), several measures are included. First, a measure assessing the *domains of non-family support* is included. The domains of non-family support measure is a count of the number of domains in which at least one non-family member was mentioned. Second, a measure assessing the *domains of family support* is also included. The domains of family support measure is a count of the number of domains in which at least one family member was mentioned. Third, a measure evaluating the *depth of social support* is included. Based on the domains mentioned above, the depth of social support measure is a count of the number of unique adults mentioned in three or more domains (including both family and non-family adults).[14]

Family social support. To measure social support provided by the family, three measures are included. First, a *parental connectedness* measure is included given that parental connectedness is a significant protective factor in the negative outcomes literature (Farrell &

[14] According to Pathways to Desistance (n.d.)f, the contact with caring adults inventory was derived through the use of a one-factor confirmatory factor analysis model, which was used to fit the eight items and make up the calculation of the domains of social support score (Cronbach's alpha= .78). The individual alphas for each individual scale, however, were not provided.

White, 1998; Fleming et al., 2002; Resnick et al., 1997). [15] Specifically, nine items were asked to evaluate the warmth of the participant's mother (e.g., "how often does your mother let you know she really cares about you"). Response options range from (1) never to (4) always. To create the parental connectedness measure, the mean of the nine items was taken as long as there was valid data for seven of the nine items. Higher scores indicate greater parental warmth provided by the participant's mother (Cronbach's alpha= .920). Second, because parental monitoring has been found to be a significant protective factor in the victimization and resiliency literature, two measures of parental monitoring are included. The first measure, *parental knowledge,* consists of five items assessing the degree to which the parents know what is going on in the youth's life (e.g., "how much does X know about how you spend your free time?"). Response options include (1) "doesn't know at all to (4) knows everything. To create the parental knowledge measure, the mean of the five items was taken as long as there was valid data on four of the five items. The second measure, *parental monitoring,* consists of four items, which taps into the extent the parents are monitoring the youth's behavior (e.g., "how often do you have a set time to be home on the weekends?"). Response options include (1) never to (4) always. To create the parental monitoring measure, the mean of the four items was taken as long as there was valid data on three of the four items.

Protective factors related to institutions and neighborhoods.

Connection to school. As mentioned previously, research suggests that connection to one's school is especially important for adolescents. To assess one's connection to school four measures are included. First, as seen in the victimization and resiliency literature, *commitment to school* is a significant protective factor (Daigle et al., 2010; Lauritsen et al., 1992). To measure

[15] The same questions were asked about the participant's father; however, many of the participants (e.g., 515) did not report data for these items. Therefore, questions assessing the father's warmth towards the participant were excluded.

one's commitment to school, seven questions were asked to evaluate the participant's educational experience (e.g., "schoolwork is very important to me"). Response options ranged from (1) strongly disagree to (5) strongly agree. The mean of these seven items was taken to create a commitment to school scale, where higher scores indicate greater commitment to school (Cronbach's alpha= .830). Notably, for some of the participants, the commitment to school questions were asked regarding both community and institutional schools. That is, the items are first asked regarding the community school the youth attended and, for participants housed in a facility for three or more months during the recall period, the items are repeated to assess academic commitment regarding the facility school (Pathways to Desistance, n.d.d). Because of this assessment, for the participants who have valid scores for both community and institutional schools, the mean of the two scores were taken for these participants to assess the overall sense of school attachment. Second, because Crosnoe and Elder (2004) found that bonding to one's teachers was a significant protective factor in the negative outcomes and resiliency literature, a *bonding to teachers* measure is included as a protective factor. Specifically, three questions are asked to assess the degree to which one is bonded to their teacher (e.g., "most teachers treat me fairly"). Response options range from (1) strongly disagree to (5) strongly agree. The mean of the three items was taken to create the bonding to teachers subscale (Cronbach's alpha= .650), where higher scores indicate greater degree of bonding to ones teachers. As mentioned above, for some of the participants, these questions were asked regarding both their community and institutional schools. Thus, for these participants, the mean of the two scores was taken to assess the overall degree of bonding to one's teachers. Third, given that grade point average (i.e., GPA) and school achievement are significant protective factors in the negative outcomes and resiliency literature (Hart et al., 2007; Lammers et al., 2000; Magnani et al., 2002), a measure assessing

one's *grades* is included. Specifically, participants were asked what their grades were like in school. Responses included (1) mostly below D's, (2) mostly D's, (3) about half C's and D's, (4) mostly C's, (5) about half B's and C's, (6) mostly B's, (7) about half A's and B's, or (8) mostly A's. Higher scores indicate a higher GPA.

Connection to Community. Because connections to the community may serve as a protective factor in the context of neighborhoods (Christiansen & Evans, 2005), two community measures were included. First, a *community connectedness* measure is included as a protective factor. Specifically, questions assessing how connected an adolescent feels to his/her community were explored. Eight items evaluating two dimensions including intergenerational closure (e.g., "how many of the parents of your friends know your parents?") and social integration (e.g., "how many of your teachers do your parents know by name?") were assessed. To create the community connectedness measure, the mean of the eight items was taken where higher scores indicate a greater degree of community connectedness (Cronbach's alpha= .740). Second, a *community involvement* measure is included. Specifically, participants were asked to count the number of community activities (e.g., church related groups, volunteer work, etc.) the youth was involved in within the past six months. Responses ranged from 0 to 4, with higher scores indicating greater community involvement.

Protective factors related to having a mental illness.

Service Utilization. Although unexplored, it is likely that service utilization is a significant protective factor amongst people with mental illness. To assess service utilization, each participant was asked if, during the last six months, they had received services from one of the following: (1) a psychologist/counselor/service worker, (2) counselor/special teacher at school, (3) people who had come into their home for counseling, or (4) community support

groups. Responses included (1) yes and (0) no. Thus, participants who had used a service were coded as 1 and participants who had not used a service were coded as 0.

Control Variables.

Age. The participant's age in years at the time of the baseline interview is included as a control variable.

Race. Four dummy variables, including White, Black, Hispanic, and Other are used to control for race. The race, Black, will serve as the referent group.

Gender. The subject's gender is used as a control variable coded as (0) female and (1) male.

Socioeconomic Status. Based on Hollingshead (1957) index of social position, socioeconomic status (SES) is calculated based on the parent's education and occupation level and is used as a control variable.

Site. Site is included as a control variable and coded as (0) Maricopa County and (1) Philadelphia.

Analytic Plan

Within the NCS-A and Pathways datasets, there are a large number of missing cases in the data. To account for this issue in both datasets, the missing data technique, multiple imputations was utilized. Briefly, multiple imputations are able to predict missing values from participants' previous observed values (Schafer & Graham, 2002). Because prior scholarship has found that 40 imputed datasets removes noise from statistical summaries (Graham et al., 2007), 40 imputed datasets will be pooled for the analysis.[16] Further, to account for the complex

[16] To conduct multiple imputations, the MI command using chained equations approach in Stata was used. Predictive mean matching technique was also explored to perform imputations. Because scholars (e.g., Allison, 2015; Rodwell et al., 2014) warn that predictive mean matching can lead to biased estimates (see

sampling design of the NCS-A sample, weights were applied and the svyset commands in Stata were used.

A variety of analytic methods were used to assess the six research questions. For all research questions, however, the victimization scales within the NCS-A and Pathways were recoded to reflect a dichotomous indicator in which a score of 1 on the victimization scale is a score of 0 on the resiliency variable, and a score of 0 is a 1 on the resiliency variable. Further, to improve upon temporal ordering and to create a more conservative empirical test of resiliency, supplementary analyses were performed within the NCS-A for all of the research questions. Specifically, past twelve month estimates of victimization were also created. As noted prior, each victimization question was followed up with the question, "how old were you the first time [this victimization event occurred]". To limit the time frame to the past twelve months, if the participant indicated that the victimization first occurred during their current age, or their age minus one, then they were coded as a victim. Thus, if a respondent indicated that they had experienced any victimization event within the past twelve months, they were scored as 1 and scored as 0 if they had not been victimized in the past twelve months. Then, the past twelve month victimization measure was recoded to reflect a dichotomous indicator in which a score of 1 on the victimization scale within the past 12-months is a score of 0 on the resiliency variable, and a score of 0 is a 1 on the resiliency variable. Finally, in analyses for all of the research questions, analyses were performed to examine sign switching, multicollinearity, and collinearity. Because the MI command suite does not support bivariate analyses, as a proxy to examine bivariate associations, logistic regression analyses were employed examining resiliency and every independent variable. Further, to examine multicollinearity, the MIVIF command was

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Rodwell et al., 2014), and Allison (2015) states that this technique should not be used until further research is conducted, the chained equations approach was used.

used (Klein, 2011). Finally, because the MI command suite does not support the command, correlate, correlations were examined in the non-imputed data. The findings from these analyses were used to inform variable inclusion, which is noted in each model as appropriate.

To examine research question one, a number of steps were conducted. First, to examine the correlates of resiliency, it is necessary to identify a sample who was at high-risk for being violently victimized (Luthar & Cushing, 1999). Prior scholars have categorized high-risk groups through a variety of techniques such as using the top 16% (+1 SD) of the sample distribution on the total risk factor index (Cicchetti et al., 1993; Luthar, 1991) or using cutoffs based on quartiles or thirds of the distributions on the total risk factor index (Luthar et al., 1993; Neighbors et a al., 1993; Stouthamer et al., 1993). To operationalize a high-risk group, a total-risk variable was created. For the NCS-A, the following risk factors were included to create the total risk variable including: crime perpetration, alcohol usage, drug usage, homelessness, delinquent peers, conflicted relationships, stressful life events, correctional facility, impulsivity, sensation seeking, anger, employment, hospitalization, medication non-compliance, and poor occupational functioning. For the Pathways sample, the following risk factors were included to create the total risk variable including: crime perpetration, binge drinking, drug usage, unstructured activities, delinquent peers, negative symptomology, delusional beliefs, correctional facility, impulsivity, aggression, employment, neighborhood disadvantage, gang membership, and carrying a gun. All of these risk factors (except for the ones that were originally dichotomous) were then dichotomized by dividing them at the mean (after standardizing them) where values below the mean were assigned a value of 0 and values at or above the mean were assigned a value of 1. These items were then summed together to create a total risk factor index, where higher scores

indicate greater number of total risk factors present for each participant.[17] High-risk subgroups were determined by examining the distribution of the total risk factor index to determine where the largest gap exists between the number of risk factors. Notably, this measurement protocol of identifying a high-risk sample has been used by previous researchers (e.g., Daigle et al., 2010; Luthar et al., 1993; Turner et al., 2007). Once high- and low-risk subgroups were split based on the total risk factor index, multiple imputations were used to account for missing data within the NCS-A and Pathways samples. Specifically, the MI command suite was used in Stata to impute data through chained equations, imputed for separate groups— high- and low-risk — using the by command. Briefly, chained equations fills in missing values in variables iteratively through a sequence of univariate imputation methods with fully conditional specification of prediction equations (van Buuren et al., 1999), and the by command allows for separate imputations based on different subsets of the data (StataCorp, n.d.). Finally, protective factors and control variables were entered into a series of logistic regression models to examine resiliency from violent victimization for youth with a mental disorder.

To examine research question two, a summary table of the results illustrated in the analyses from research question one was created to show five different domains of social support including: peer support, non-family adult support, family support, depth of social support (measures only included in Pathways), and parental support (including parental connectedness

[17]The majority of the NCS-A sample did not have any missing data on the risk factors. Further, approximately 849 participants were missing data for one risk factor, and only 77 were missing on two risk factors. Fourteen were missing on three risk factors. Because the largest gap was between five and six risk factors, and there were no participants missing six or more risk factors, the total risk measure was calculated by taking the sum of the risk factors as long as there was valid data on six of the 15 items. The majority of the Pathways sample did not have any missing data on any of the risk factors (e.g. 933). Approximately 386 participants had missing data on one risk factor, and 28 had missing data on 2 risk factors. Because none of the participants were missing data on five or more risk factors, the sum of the total risk variable was calculated as long as 5 out of the 16 items had valid data.

and parental monitoring) and how these domains were related to resiliency from violent victimization within the NCS-A and Pathways samples.

To examine research question three, the NCS-A data were used because the majority of the Pathways sample are males, precluding running a group-based analysis. Before running analyses, it was first necessary to identify a high- and low-risk subgroup of NCS-A females and males. The same operationalization process described in research question one was used for research question three. Briefly, the risk factors were standardized, dichotomized (except for the variables that were already dichotomous), and summed to create a total risk factor index for the NCS-A female and male subsamples. Before running analyses, multiple imputations were used to account for missing data. Specifically, the MI command suite was used in Stata to impute data through chained equations, imputed for separate groups— high-risk, low-risk, male, and female— using the by command. Then, protective factors and control variables were entered into a series of logistic regression analyses to assess group differences based on biological sex. To examine if there are significant differences in the effects of the coefficients on resiliency based on biological sex, interaction terms were incorporated into the models. Specifically, the model was split into high- and low-risk, and then interaction terms of protective factors/control variables X biological sex were incorporated with the main effects in the model predicting resiliency from violent victimization.

To examine research question four, both, the NCS-A and Pathways samples were used. Specifically, diagnostic categories including anxiety-related, childhood-related, bipolar-related, depression-related, substance-related, and impulse-control disorders were examined within the NCS-A sample. Because the majority of the Pathways sample had a diagnosis of a substance-related disorder, this diagnostic category was examined. Unfortunately, there are too few people

diagnosed with a mood-related disorder within Pathways to run a subgroup analysis on that group.[18] Similar to research question one and three, the NCS-A and Pathways samples were split into high- and low-risk subsamples using the same operationalization process as research question one and three. Briefly, to select a high-risk group, the risk factors were standardized, dichotomized (except for the variables that were already dichotomous), and summed to create a total risk factor index for each diagnostic group. Then, a high-risk subgroup was selected based on the largest gap between risk factors for each diagnostic group. Before running analyses, multiple imputations were utilized to account for missing data. Specifically, the MI command suite was used in Stata to impute data through chained equations. Data was imputed for separate groups— high-risk, low-risk, and diagnostic category— using the by command.[19] Then, protective factors and control variables were entered into a series of logistic regression analyses to assess significant protective factors within each diagnostic category.[20]

To examine research question five, a summary table of the results from analyses to examine research question one was created. Specifically, the table includes a summary of how individual-level protective factors, protective factors related to social support, protective factors

[18] 194 people are diagnosed with a mood-related disorder in Pathways sample. By splitting the mood-related diagnostic group into high- and low-risk groups, there would only be 71 participants in the high-risk group and 123 in the low-risk group, resulting in too few participants to run a group-based analysis. For this reason, only the substance-related diagnostic category is examined utilizing the Pathways sample.

[19] Each diagnostic category was included separately using the MI command using chained iterations. For example, to create the depression-related imputed dataset, the chained equation was specified to run by total risk and depression-related diagnostic group. As a result, seven different imputed datasets all based on the diagnostic category of interest were created to run the subgroup analyses.

[20] The survey command in Stata was used to account for the sampling design of NCS-A. For the diagnostic subgroups, some subgroups had a stratum with a single sampling unit. To adjust for this, the command singleunit(certainty) was used because the svy command manual provided by Stata notes that by using the command singleunit(certainty), the units that have a single sampling unit within a stratum contribute nothing to the standard error (StataCorp, n.d., p. 4). Additionally, others have documented that the other two options (e.g., singleunti(missing) or singleunit(centered)) lead to upwardly biased estimates of standard errors (e.g., singleunit(centered)) or a lack of standard errors reported (e.g., singleunit(missing)) (see Samuels, 2010). Notably, all three methods were explored. Singleunit(missing) did not report standard errors, p-value, or confidence intervals. Singleunit(certainty) and singleunit(centered) reported the exact same substantive results.

related to neighborhoods and institutions, and protective factor related to having a mental illness may influence resiliency from violent victimization and differ depending on the context of the population.

Several different analytic strategies were used to examine the four resiliency models within both samples to examine research question six. To empirically test the compensatory resilience model, direct effects of both risk and protective factors were included in the multivariate logistic regression model examining the full sample. The samples were not split into high- and low-risk groups, consistent with prior scholarship (Bryant et al., 2003; Flemming et al., 2002; Resnick et al., 1997; Santelli et al., 2004; Howell & Miller-Gaff, 2014). Before conducting analyses, multiple imputations were used to account for missing data within the NCS-A and Pathways samples. As in other analyses, the MI command suite was used in Stata to impute risk, protective, and control variables through chained equations. After imputations, all of the risk, protective, and control variables were examined in a multivariate logistic regression analyses.

Next, the protective resilience model examines if protective factors moderate or reduce the effects of risk on an outcome, which is typically empirically tested through an interaction term. The analyses of the protective resilience model were conducted in several steps. First, the total-risk scale was created by dichotomizing (except for the variables that were already dichotomous) risk factors by dividing them at the mean (after standardizing them) where values below the mean were assigned a value of 0 and values at or above the mean were assigned a value of 1. The risk factors were then summed together to create a total risk factor index, where higher scores indicate greater number of total risk factors present for each participant. Next, the total protection scale was created. Similar to the total risk scale, to create the total protection scale each protective factor was dichotomized (except for the measures that are originally

dichotomous) by standardizing the variable and dividing them at the mean, consistent with prior scholarship (Jessor et al., 1995; Turner et al., 2007). Then, the protective factors were summed together, where higher values reflect a greater number of protective factors. After creating the total protection scale, the interaction term was created before multiple imputations based off of scholars recommendations to create interaction terms in un-imputed data first, and then impute the interaction as if they were a normal variable, which reduces bias (see Graham, 2009; von Hippel, 2009). Specifically, the total risk scale and total protection scale were included as an interaction term, which is consistent with prior scholarship (Christiansen & Evans, 2005). Lastly, multiple imputations were used to account for missing data. Specifically, the MI command suite was used in Stata to impute data through chained equations. Finally, control variables, linear terms of total risk and total protection, and the total risk X total protection interaction term were included in multivariate logistic regression models for the full NCS-A and Pathways samples predicting resiliency from victimization, consistent with prior researchers who have tested this model (Bockting et al., 2013; Crosnoe & Elder, 2004; Farrell & White, 1998; Scheier et al., 1999; Wills et al., 2003).

To empirically test the challenge resilience model, a quadratic term of total risk (i.e., total risk X total risk) was used. Because prior scholars have suggested creating transformations before imputing data (Graham, 2009; von Hippel, 2009), the quadratic term of total risk was created in the unimputed data. Then, multiple imputations were used to account for missing data through the MI command suite in Stata using chained equations. Next, the quadratic terms of total risk were entered into the multivariate logistic regression equations with the linear term (total risk) and control variables predicting resiliency from victimization for the full NCS-A and

Pathways samples. Notably, this research strategy is consistent with that used by prior researchers (e.g., Garmezy et al., 1984; Christiansen & Evans, 2005).

Finally, the protective-protective model examines the effect of cumulative protective factors on an outcome. To empirically examine this type of resiliency model, the total protective scale was used. As described above, the total protective scale was created by standardizing, dichotomizing, and summing the protective factors together. As a result, higher values indicate the presence of more protective factors. The total protective scale was created in the unimputed dataset following advice from prior researchers (e.g., Graham, 2009; von Hippel, 2009). Because prior scholars have empirically tested the protective-protective resilience model through splitting the groups into high- and low-risk subgroups (e.g., Daigle et al., 2010), the same total risk distribution used in research question one was used for the NCS-A and Pathways samples. To account for missing data, multiple imputations were performed. Specifically, the MI command suite using chained equations in Stata was used. Further, the by command was used to impute data based on high- and low-risk. Finally, the total protective scales were entered into two multivariate logistic models for both high and low-risk NCS-A and Pathways groups predicting resiliency from victimization.

Chapter 5:
Results

Research Question One- What protective factors are important in the resiliency process from violent victimization?

To answer the first research question, factors that provide protection from experiencing a violent victimization event for at-risk adolescents with mental disorders were identified. Specifically, the NCS-A and Pathways samples were split into high- and low-risk subgroups. After the subgroups were identified, protective factors and control variables were entered into a series of logistic regression models.

Analyses of NCS-A

As previously discussed, the analyses for research question one were conducted in a number of steps. Briefly, a high-risk group was operationalized by creating a total-risk variable. Table 1 displays the distribution of risk factors within the NCS-A sample. As can be seen, the largest gap appeared to exist between five and six risk factors. As a result, the high-risk sample was operationalized by including participants who had six or more risk factors, which equated to 36.35% of the sample.

Table 1

The Distribution of Risk Factors Among NCS-A Youths with a Mental Illness

Number of Risk Factors	Percentage of Sample	Cumulative Percentage
0	3.11%	3.11%
1	6.91%	10.02%
2	9.92%	19.94%
3	13.79%	33.73%
4	14.74%	48.47%
5	15.17%	63.64%
6	13.18%	76.82%
7	10.25%	87.07%
8	6.88%	93.96%
9	3.47%	97.42%
10	1.73%	99.16%
11	0.76%	99.92%
12	0.08%	100%

Next, the descriptive statistics of the high- and low-risk subgroups within the NCS-A were examined. As shown in Table 2, approximately 51% of youths with mental disorders within NCS-A high-risk group were resilient from violent victimization. The average age was approximately 16, and 52% of the high-risk sample were males. The majority of the high-risk sample was White (58.38%), with approximately 14% reporting that they were Black, 22% reported Hispanic, and 6% reported other race. Half of the high-risk subsample had a diagnosis of substance abuse/dependence disorder (54.53%), with approximately 16% diagnosed with a bipolar spectrum disorder, 27% diagnosed with a depression spectrum disorder, 36% diagnosed with an impulse control disorder, 43% diagnosed with a childhood-related disorders, and 40% diagnosed with an anxiety-spectrum disorder. Amongst the low-risk subgroup within the NCS-A, however, the majority of the sample (approximately 77%) was not violently victimized as shown in Table 3.[21] Further, the average age was approximately 15, and less than half of the low-risk sample were males (44%). Half of the low-risk sample was White (51.49%), with approximately 22% reporting that they were Black, 20% reporting Hispanic, and 7% reporting other race. Approximately half of the sample (49%) were diagnosed with an anxiety-spectrum related disorder, 9% diagnosed with a bipolar-spectrum disorder, 25% diagnosed with a depression-spectrum disorder, 10% diagnosed with a substance abuse/dependence disorder, 29% diagnosed with an impulse-control related disorder, and 30% diagnosed with a childhood-related disorder.

[21] Although it would be useful to examine if there are significant differences across the high- and low-risk groups on factors that promote resiliency from violent victimization, the MI suite of commands do not include significant tests at the bivariate level.

Table 2

NCS-A High-Risk Youths with a Mental Illness Descriptive Statistics (n = 1,597)

	Mean or %[1]	SD or N	Min-Max
Resiliency from Victimization	50.93%	813	0-1
Individual-Level Protective Factors			
Positive Affect	2.52	.70	0-4.00
Perception of Self	6.48	1.70	0-10.01
Global Self-Esteem	2.23	.69	0-3.04
Religiosity	-.33	.83	-1.58-1.33
Self-Efficacy	1.79	.47	.09-3.00
Intelligence	98.44	14.42	49-134.48
Protective Factors Related to Social Support			
Peer Support	.06	.75	-2.45-1.15
Adult Support	2.01	.78	-.15-4.53
Family Connectedness	1.53	.57	-.01-3.00
Parental Connectedness	2.46	.60	0-3.16
Parental Monitoring	1.88	.77	-.01-3.20
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.08	.61	0-2.00
Commitment to School	1.93	.56	0-3.00
Neighborhood Cohesion	-.13	.78	-2.48-.98
Protective Factors Related to having a Mental Illness			
Service Utilization	53.70%	858	0-1
Control Variables			
Anxiety Related Disorders	39.81%	636	0-1
Bipolar Related Disorders	16.46%	263	0-1
Depression Related Disorders	27.51%	439	0-1
Substance Related Disorders	54.53%	871	0-1
Impulse Control Disorder	36.33%	580	0-1
Childhood Related Disorders	43.35%	692	0-1
Age	15.94	1.39	13-18
Black	13.91%	222	0-1
Hispanic	21.80%	348	0-1
White	58.38%	932	0-1
Other	5.90%	94	0-1
Male	52.17%	833	0-1
Poverty	2.83	1.08	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Table 3

NCS-A Low-Risk Youths with a Mental Illness Descriptive Statistics (n = 2,779)

	Mean or %[1]	SD or N	Min-Max
Lack of Victimization	77.41%	2,151	0-1
Individual-Level Protective Factors			
Positive Affect	2.59	.67	0-4.00
Perception of Self	6.55	1.65	.25-10.10
Global Self-Esteem	2.31	.64	0-3.09
Religiosity	.03	.86	-1.53-1.36
Self-Efficacy	1.91	.44	.18-3.01
Intelligence	99.27	15.24	42-137.51
Protective Factors Related to Social Support			
Peer Support	-.01	.76	-2.48-1.60
Adult Support	2.00	.75	-.10-4.61
Family Connectedness	1.72	.55	-.05-3.01
Parental Connectedness	2.63	.46	0-3.37
Parental Monitoring	1.96	.71	-.05-3.42
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.26	.57	0-2.00
Commitment to School	2.24	.50	0-3.05
Neighborhood Cohesion	-.06	.75	-2.48-1.00
Protective Factors Related to having a Mental Illness			
Service Utilization	32.92%	915	0-1
Control Variables			
Anxiety-Related Disorders	49.01%	1,362	0-1
Bipolar-Related Disorders	9.01%	250	0-1
Depression-Related Disorders	25.08%	697	0-1
Substance-Related Related Disorders	10.40%	289	0-1
Impulse-Control Disorder	28.84%	801	0-1
Childhood-Related Disorders	30.03%	834	0-1
Age	15.17	1.50	13-18
Black	21.78%	605	0-1
Hispanic	20.02%	556	0-1
White	51.49%	1,431	0-1
Other	6.71%	186	0-1
Male	44.20%	1,228	0-1
Poverty	2.73	1.08	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

After identifying a high- and low-risk group, protective factors related to resiliency from violent victimization were examined using multivariate logistic regression for the high-risk subgroup. As shown in Table 4, one protective factor related to social support, one protective factor related to institutions and neighborhoods, and one protective factor related to having a mental illness were significantly associated with resiliency from violent victimization. For example, a protective factor related to social support was significantly associated with resiliency

from violent victimization— parental connectedness. For every one-point increase in the parental connectedness scale, there is an increase in the odds of being resilient from violent victimization by 67%. Additionally, one protective factor related to institutions—commitment to school—was significantly associated with resiliency from violent victimization. Specifically, for every one-point increase in the commitment to school scale, there is an increase in the odds of being resilient from violent victimization by approximately 78%. Finally, for people who utilized a mental health service, the odds of being resilient from violent victimization decreased (OR: .37). Two factors related to mental health diagnoses were significantly associated with resiliency from violent victimization for the high-risk subsample. In fact, for participants who were diagnosed with a childhood-related (OR: .59) or impulse-control (OR: .55) disorder, the odds of being resilient from violent victimization significantly decreased. Lastly, one control variable related to race was significantly associated with resiliency from violent victimization. That is, the odds of being resilient decreased amongst people who report Other (OR: .58) race when compared to White individuals.

Table 4

Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A High-Risk Youths with a Mental Illness (n = 1,597)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	-.02	.17	.98	.69-1.39
Perception of Self	-.08	.05	.92	.83-1.02
Global Self-Esteem	.15	.13	1.16	.89-1.52
Religiosity	-.18	.10	.83	.67-1.03
Self-Efficacy	-.41	.18	.66	.46-.96
Intelligence	-.00	.00	.98	.65-1.48
Protective Factors Related to Social Support				
Peer Support	.16	.10	1.17	.95-1.45
Adult Support	-.12	.11	.89	.70-1.12
Family Connectedness	-.01	.20	.98	.65-1.48
Parental Connectedness	.51***	.13	1.67	1.28-2.16
Parental Monitoring	-.19	.11	.83	.66-1.03
Protective Factors Related to Institutions & Neighborhoods				
Grades	-.20	.12	.82	.64-1.05
Commitment to School	.58***	.16	1.78	1.30-2.46
Neighborhood Cohesion	-.09	.13	.92	.71-1.18
Protective Factors Related to having a Mental Illness				
Service Utilization	-.99***	.27	.37	.21-.64
Control Variables				
Anxiety-Related Disorders	-.40	.22	.67	.43-1.04
Bipolar Related Disorders	-.39*	.17	.68	.48-.95
Depression-Related Disorders	-.35	.18	.70	.48-1.02
Substance-Related Disorders	-.31	.17	.73	.52-1.03
Impulse-Control Disorder	-.60***	.17	.55	.39-.77
Childhood-Related Disorders	-.52**	.17	.59	.42-.84
Age	.03	.04	1.03	.95-1.11
Black[1]	.02	.33	1.02	.53-1.97
Hispanic[1]	-.51	.29	.60	.33-1.07
Other[1]	-.49*	.21	.61	.40-.93
Male	.10	.17	1.10	.78-1.57
Poverty Category 1 (Income < 1.5)[2]	-.34	.17	.71	.38-1.32
Poverty Category 2 (Income ≤ 3)[2]	-.16	.27	.85	.50-1.47
Poverty Category 3 (Income ≤ 6)[2]	.08	.17	1.09	.77-1.55

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

As a comparison to the high-risk subgroup, and consistent with previous research (Daigle et al., 2010; Turner et al., 2007), Table 5 presents the findings from a multivariate logistic regression examining the relationship between protective factors and a lack of violent

victimization experiences for the NCS-A low-risk youths with a mental illness. Although not a true test of resiliency, these analyses illustrate factors that are relevant for not being victimized for the low-risk group. As shown in Table 5, one protective factor related to individual-level attributes, two protective factors related to social support, and one protective factor related to having a mental illness were significantly associated with not being violently victimized. For instance, an individual-level attribute was significantly associated with not being violently victimized — for every one-point increase in the self-efficacy scale, there is an increase in the odds of experiencing a violent victimization event by 43% (OR: .57). Two protective factors related to social support (parental connectedness and monitoring) were also significant protective factors for the low-risk group. Specifically, for every one-point increase in the parental connectedness scale, there is an increase in the odds of not being violently victimized by 34% (OR: 1.34) and for every one-point increase in the parental monitoring scale, there is an increase in the odds of being violently victimized by 24% (OR: .76). For youths who utilized a mental health service, the odds of being violently victimized increased (OR: .33). All of the six diagnoses were significantly related to a lack of violent victimization amongst the low-risk subsample of youths with a mental disorder. Specifically, the odds of being violently victimized significantly increased among those with a bipolar-related (OR: .49), depression-related (OR: .59), substance-related (OR: .59), impulse-control (OR: .71), childhood-related (OR: .61), and anxiety-related (OR: .72) disorders. Lastly, age and race were significantly associated with a lack of violent victimization events. In fact, as age increases the odds of being violently victimized increased (OR: .85). Additionally, the odds of being violently victimized increased among participants who are Black (OR: .60) and Hispanic (OR: .47) compared to those who are White.

Table 5

Multivariate Logistic Regression Predicting a Lack of Violent Victimization among NCS-A Low-Risk Youths with a Mental Illness (n = 2,779)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	.12	.14	1.13	.84-1.50
Perception of Self	.00	04	1.00	.91-1.10
Global Self-Esteem	.02	.11	1.02	.81-1.28
Religiosity	-.06	.11	.94	.75-1.17
Self-Efficacy	-.57*	.23	.57	.36-.90
Intelligence	-.00	.00	.99	.99-1.00
Protective Factors Related to Social Support				
Peer Support	-.04	.09	.96	.81-1.14
Adult Support	-.05	.09	.95	.78-1.15
Family Connectedness	.24	.19	1.27	.86-1.86
Parental Connectedness	.29*	.14	1.34	1.01-1.78
Parental Monitoring	-.27*	.13	.76	.59-.99
Protective Factors Related to Institutions & Neighborhoods				
Grades	.23	.12	1.26	.99-1.60
Commitment to School	.09	.19	1.10	.75-1.61
Neighborhood Cohesion	.11	.10	1.12	.92-1.37
Protective Factors Related to having a Mental Illness				
Service Utilization	-1.05***	.13	.35	.27-.45
Control Variables				
Anxiety-Related Disorders	-.33*	.13	.72	.55-.94
Bipolar Spectrum Disorders	-.71***	.19	.49	.33-.72
Depression Spectrum Disorders	-.53**	.18	.59	.41-.84
Substance-Related Disorders	-.53*	.23	.59	.37-.93
Impulse-Control Disorder	-.34*	.15	.71	.52-.97
Childhood-Related Disorders	-.48***	.13	.61	.47-.80
Age	-.16***	.04	.85	.78-.93
Black[1]	-.50**	.19	.60	.41-.87
Hispanic[1]	-.75***	.16	.47	.34-.89
Other[1]	-.44	.36	.64	.31-1.35
Male	.03	.13	1.04	.80-1.34
Poverty Category 1 (Income < 1.5)[2]	-.08	.19	.92	.63-1.34
Poverty Category 2 (Income ≤ 3)[2]	.05	.21	1.05	.69-1.60
Poverty Category 3 (Income ≤ 6)[2]	-.21	.17	.81	.58-1.14

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

Supplementary analyses using the dependent variable, resiliency from violent victimization within the past 12-months were also conducted. As shown in Appendix C, there

were several protective factors that significantly increased the odds of resiliency from violent victimization in the past 12-months for NCS-A high-risk youth with a mental illness including self-esteem (OR: 1.50, CI: 1.02, 2.21, p<.04), parental connectedness (OR: 1.47, CI: 1.01, 2.14, p<.04), and commitment to school (OR: 1.48, CI: 1.08, 2.03, p<.01). Self-efficacy (OR: .67, CI: .46, .97, p<.04), IQ (OR: .99, CI: .97, 1.00, p<.03) and service utilization (OR: .62, CI: .38, 1.00, p<.05) reduced the odds of being resilient from violent victimization within the past 12-months. Finally, there were several control variables that were significantly associated with resiliency from violent victimization within the past 12-months for high-risk youth. Age (OR: 1.27, CI: 1.10, 1.47, p<.001), Black (OR: .41, CI: .21, .80, p<.01), Other race (OR: .43, CI: .20, .94, p<.03), childhood-related disorder (OR: .58, CI: .40, .84, p<.004), and substance-related disorder (OR: .46, CI: .29, .73, p<.001,) were all significant. Low-risk findings were also explored in the supplementary analyses to serve as a comparison to the high-risk subgroup findings. For the low-risk subgroup, two protective factors were significantly associated with a lack of violent victimization within the past 12-months: grades (OR: 1.66, CI: 1.05, 2.63, p<.03) and service utilization (OR: .53, CI: .33, .85, p<.01). Two diagnostic categories, bipolar (OR: .40, CI: .22, .74, p<.005) and childhood-related (OR: .62, CI: .41, .96, p<.03) disorders, were significantly associated with a lack of violent victimization within the past 12-months.

Analyses of Pathways

Similar to the research protocol used for the NCS-A sample, the analyses of the Pathways data were conducted in multiple stages. First, it was necessary to identify a high-risk sample. Table 6 displays the distribution of risk factors within the Pathways sample. As can be seen, the largest gap appeared between seven and eight risk factors. As a result, the high-risk sample was

operationalized by including participants who had eight or more risk factors, which equated to 47.72% of the sample.[22]

Table 6

The Distribution of Risk Factors Among Pathways Youths with a Mental Illness

Number of Risk Factors	Percentage of Sample	Cumulative Percentage
0	0.22%	0.22%
1	0.87%	1.08%
2	2.82%	3.90%
3	4.77%	8.68%
4	5.42%	14.10%
5	11.93%	26.03%
6	12.15%	38.18%
7	14.10%	52.28%
8	14.75%	67.03%
9	12.15%	79.18%
10	10.85%	90.02%
11	5.42%	95.44%
12	3.04%	98.48%
13	1.08%	99.57%
14	0.43%	100%

After identifying the high-risk and low-risk samples, the descriptive statistics of both subgroups were explored. As shown in Table 7, approximately 37% of the high-risk Pathways subsample was resilient from violent victimization experiences. The average age for the high-risk group was 16, and the majority of the sample was males (86.90%). Most of the high-risk sample was non-White (24% reported White, 26% reported Black, 43% reported Hispanic, and 6% reported Other race). Finally, the majority of the high-risk subsample was diagnosed with a substance-related disorder (95.48%), with approximately 34% diagnosed with a mood-related disorder. For the low-risk subsample, approximately half (56%) of the sample was not violently

[22] Other cut-points were explored. Specifically, a cut-point between 7 and 8 and a cut-point between 8 and 9 risk factors were explored. The decision to use a cut-point of 8 or more risk factors to categorize the high-risk subsample was used for several reasons. First, prior resiliency scholars have suggested using a cut-point where the largest gap exists between risk factors. As can be seen in Table 6, the gap between 7 and 8 risk factors was 14.75%, and the gap between 8 and 9 risk factors was 12.15% showing that the largest gap exists between 7 and 8 risk factors. Second, the models using the higher cut-point of 9 or more risk factors were unstable. Specifically, for the high-risk group with a cut-point of 9 or more risk factors, only people with a substance-related disorder would be included in the analyses. Because the mood-related disorder participants would be included in the low-risk group, a decision to use a cut-point of 8 or more was used to have congruence in the sample for both high- and low-risk groups.

victimized (see Table 8). The average age of the low-risk group was 16, and the majority were males (83.75%). The majority of the low-risk sample was non-White (20% reported White, 44% reported Black, 30% reported Hispanic). Most of the low-risk sample was diagnosed with a substance-related disorder (87.53%), and 27% were diagnosed with a mood-related disorder.

Table 7

Pathways High-Risk Youths with a Mental Illness Descriptive Statistics (n = 290)

	Mean or %[1]	SD or N	Min-Max
Resiliency from Victimization	37.52%	109	0-1
Individual-Level Protective Factors			
Religiosity	-.06	.80	-1.52-1.61
Identity	3.07	.49	1.50-4.00
Self-Reliance	3.00	.47	1.00-4.00
Intelligence	85.86	12.53	55.00-118.00
Emotional Regulation	2.59	.60	1.00-4.00
Future Outlook	2.20	.50	1.00-3.63
Protective Factors Related to Social Support			
Peer Support	3.32	.46	2.06-4.08
Domains of Non-Family Support	1.92	2.46	0-8.00
Domains of Family Support	5.96	2.07	0-8.00
Depth of Social Support	2.03	1.02	0-5.00
Parental Connectedness	3.07	.72	.95-4.06
Parental Knowledge	2.34	.80	.56-4.13
Parental Monitoring	2.52	.86	.19-4.76
Protective Factors Related to Institutions & Neighborhoods			
Commitment to School	3.18	.80	.93-5.11
Bonding to Teachers	3.10	.83	.89-5.26
Grades	3.97	1.97	1.00-8.00
Community Connectedness	2.43	.50	1.25-3.63
Community Involvement	.27	.59	0-3.00
Protective Factors Related to having a Mental Illness			
Service Utilization	35.69%	103	0-1
Control Variables			
Mood-Related Disorder	33.79%	98	0-1
Substance-Related Disorder	95.48%	277	0-1
Age	16.12	1.08	14-18
White	24.48%	71	0-1
Hispanic	43.45%	126	0-1
Black	25.86%	75	0-1
Other	6.21%	18	0-1
Male	86.90%	252	0-1
SES	52.38	12.23	18.00-77.00
Site (1=Philadelphia)	37.93%	110	0-1

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Table 8

Pathways Low-Risk Youths with a Mental Illness Descriptive Statistics (n = 357)

	Mean or %[1]	SD or N	Min-Max
Lack of Victimization	56.10%	200	0-1
Individual-Level Protective Factors			
Religiosity	.03	.79	-1.52-1.61
Identity	3.25	.49	1.00-4.03
Self-Reliance	3.17	.53	1.00-4.02
Intelligence	86.10	12.86	55.00-118.60
Emotional Regulation	2.80	.64	1.00-4.00
Future Outlook	2.38	.56	1.00-4.00
Protective Factors Related to Social Support			
Peer Support	3.41	.44	1.30-4.14
Domains of Non-Family Support	1.90	2.52	0-8.00
Domains of Family Support	6.07	2.07	0-8.00
Depth of Social Support	2.09	1.01	0-5.00
Parental Connectedness	3.21	.66	1.00-4.30
Parental Knowledge	2.61	.78	.68-4.17
Parental Monitoring	2.69	.86	.45-4.72
Protective Factors Related to Institutions & Neighborhoods			
Commitment to School	3.56	.73	1.00-5.19
Bonding to Teachers	3.37	.82	.96-5.32
Grades	4.25	1.98	1.00-8.00
Community Connectedness	2.50	.52	1.00-4.00
Community Involvement	.22	.55	0-3.00
Protective Factors Related to having a Mental Illness			
Service Utilization	29.73%	106	0-1
Control Variables			
Mood-Related Disorders	26.89%	96	0-1
Substance-Related Disorders	87.53%	312	0-1
Age	16.29	1.10	14-19
White	20.73%	74	0-1
Hispanic	29.69%	106	0-1
Black	44.54%	159	0-1
Male	83.75%	299	0-1
SES	50.14	11.93	16.50-77.18
Site (1=Philadelphia)	52.10%	186	0-1

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Next, two multivariate logistic regression models were employed, both examining the relationship between protective factors and resiliency from violent victimization among youths with a mental illness. First, as shown in Table 9, protective factors were evaluated for the high-risk group. Some protective factors related to social support and one protective factor related to institutions and neighborhoods were significantly associated with resiliency from violent victimization among the high-risk sample. More specifically, the odds of being resilient from

violent victimization decreased as the count of the number of domains in which at least one non-family adult member is mentioned increased (OR: .84). Further, the odds of being resilient from violent victimization increased by approximately 44% as the depth of one's social support increased. One factor related to institutions and neighborhoods—bonding to teachers—was significantly associated with a resiliency from violent victimization. For every one-point increase in the bonding to teachers scale, there is a decrease in the odds of resiliency from violent victimization by 35% (OR: .65). Finally, one control variable was significantly associated with resiliency from violent victimization. Among males, the odds of being resilient from violent victimization decreased (OR: .34) compared to females.

Table 9

Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among Pathways High-Risk Youths with a Mental Illness (n = 290)

	b	se	OR	CI
Individual-Level Protective Factors[1]				
Religiosity	.19	.19	1.21	.83-1.76
Self-Reliance	-.40	.31	.67	.36-1.24
Intelligence	.02	.01	1.02	1.00-1.05
Emotional Regulation	.28	.25	1.32	.82-2.14
Future Outlook	.39	.31	1.48	.81-2.71
Protective Factors Related to Social Support				
Peer Support	.12	.35	1.12	.56-2.24
Domains of Non-Family Support	-.17*	.07	.84	.73-.97
Domains of Family Support	-.17	.09	.84	.71-1.01
Depth of Social Support	.37*	.17	1.44	1.04-2.00
Parental Connectedness	-.03	.22	.97	.64-1.49
Parental Knowledge	-.01	.18	.99	.69-1.42
Parental Monitoring	-.03	.20	.97	.66-1.43
Protective Factors Related to Institutions & Neighborhoods				
Commitment to School	-.22	.23	.80	.51-1.26
Bonding to Teachers	-.43*	.20	.65	.44-.98
Grades	-.09	.07	.91	.78-1.06
Community Connectedness	-.06	.32	.94	.50-1.76
Community Involvement	.12	.25	1.13	.70-1.83
Protective Factors Related to having a Mental Illness				
Service Utilization	-.13	.31	.88	.48-1.62
Control Variables				
Mood-Related Disorder	-.61	.32	.54	.29-1.03
Substance-Related Disorder	-.52	.70	.59	.15-2.31
Age	.20	.15	1.23	.92-1.63
White[2]	-.31	.47	.73	.29-1.84
Hispanic[2]	-.18	.41	.83	.37-1.86
Other[1]	-1.38	.72	.25	.06-1.03
Male	-1.09*	.43	.34	.14-.79
SES	.02	.01	1.02	1.00-1.05
Site (1=Philadelphia)	.07	.337	1.08	.52-2.24

Note. [1]= The variable, identity, was removed from the analyses due to sign switching and high correlation with the variable, self-reliance.
[2]= Black is the referent group.
*p < .05

Similar to the NCS-A, a low-risk model was also examined to serve as a comparison to the high-risk group. The results presented are not a formal test of resiliency, but Table 10 shows the findings for the low-risk subgroup examining factors that influence a lack of violent

victimization. Among the low-risk group within the Pathways sample, none of the protective factors were significantly associated with a lack of violent victimization events. In fact, only one control variable was significantly associated with not being violently victimized. As shown in Table 10, for every one-point increase in age, there is an approximately 28% increase in the odds of not being violently victimized.

Table 10

Multivariate Logistic Regression Predicting a Lack of Violent Victimization among Pathway to Desistance Low-Risk Youths with a Mental Illness (n = 357)

	b	se	OR	CI
Individual-Level Protective Factors[1]				
Religiosity	.13	.16	1.14	.83-1.56
Self-Reliance	.14	.24	1.15	.72-1.84
Intelligence	-.01	.01	.99	.97-1.01
Emotional Regulation	-.06	.20	.94	.63-1.39
Future Outlook	-.40	.24	.67	.42-1.06
Protective Factors Related to Social Support				
Peer Support	-.08	.29		
Domains of Non-Family Support	-.07	.06	.93	.83-1.04
Domains of Family Support	-.07	.08	.93	.80-1.08
Depth of Social Support	.19	.14	1.21	.92-1.61
Parental Connectedness	.01	.21	1.01	.68-1.52
Parental Knowledge	.13	.18	1.14	.80-1.62
Parental Monitoring	.19	.18	1.21	.84-1.73
Protective Factors Related to Institutions & Neighborhoods				
Commitment to School	.08	.21	1.09	.71-1.65
Bonding to Teachers	-.08	.17	.92	.66-1.28
Grades	.07	.06	1.07	.94-1.21
Community Connectedness	-.37	.28	.69	.40-1.19
Community Involvement	-.14	.22	.87	.56-1.35
Protective Factors Related to having a Mental Illness				
Service Utilization	.02	.27	1.02	.60-1.74
Control Variables[2]				
Mood-Related Disorder	-.17	.35	.84	.42-1.68
Substance-Related Disorder	-.46	.47	.63	.25-1.59
Age	.25*	.12	1.28	1.02-1.61
White[3]	-.43	.37	.65	.31-1.35
Hispanic[3]	-.41	.33	.67	.35-1.26
Male	-.29	.34	.75	.38-1.47
SES	-.00	.01	1.00	.98-1.02
Site (1=Philadelphia)	.18	.34	1.20	.62-2.31

Note. [1]= The variable, identity, was removed from the analyses due to sign switching and high correlation with the variable, self-reliance.
[2]= Other racial group omitted from the analyses due to the low number of people in racial category (n=18)
[3]= Black is the referent group
*p < .05

Research Question Two- What types of social support structures are important in the resiliency process from violent victimization amongst people with mental illness?

As noted previously, research demonstrates the positive impact social support for a person with a mental disorders' life. There are also theoretical reasons why social support would protect against violent victimization (i.e., guardianship, etc.). Finally, prior resiliency research has consistently demonstrated the importance of social support across populations and contexts. For these reasons, the purpose of the second research question is to assess if and which social support structures are important for people with mental illness. As previously mentioned, a summary table of the results illustrated in the analyses from research question one was created to show five different domains of social support and how these domains were related to resiliency from violent victimization within the NCS-A and Pathways samples.

As shown in Table 11, peer and family support were consistently not related to resiliency from violent victimization within the NCS-A or Pathways samples. Non-family support was only significantly associated with resiliency from violent victimization within the Pathways high-risk group, although this was a negative association. Within the NCS-A high- and low-risk samples, parental connectedness appears to be a particularly important protective factor related to the resiliency process from violent victimization. More specifically, within the high- and low-risk NCS-A groups, parental connectedness significantly increased the odds of being resilient from violent victimization. Lastly, parental monitoring significantly increased the odds of being violently victimized within the low-risk subsample of the NCS-A.

Table 11

Summary of Results Examining Types of Social Support that Influence Resiliency from Violent Victimization amongst Adolescents with Mental Illness

Type of Social Support	NCS-A High Risk	NCS-A Low-Risk	Pathways High-Risk	Pathways Low-Risk
Peer Support	NS	NS	NS	NS
Non-Family Adult Support	NS	NS	(-) $p < .05$	NS
Family Support	NS	NS	NS	NS
Depth of Social Support	—	—	(+) $p < .05$	NS
Parental Connectedness	(+) $p < .001$	(+) $p < .05$	NS	NS
Parental Monitoring	NS	(-) $p < .05$	NS	NS

Research Question Three- Do protective factors vary based on biological sex for people with mental illness?

To answer the third research question, group differences on protective factors that influence resilience from violent victimization based on biological sex for youth with mental illness were identified. As mentioned previously, the NCS-A sample was used to assess this research question. Similar to research question one, the NCS-A sample was split into high- and low-risk subsamples. Then, protective factors and control variables were entered into a series of logistic regression analyses to assess group differences based on biological sex. Finally, interaction-terms (i.e., protective factor/control variable X biological sex) were incorporated to assess group differences in factors related to resiliency based on biological sex.

Analyses of NCS-A Females

Before running analyses, it was first necessary to identify a high- and low-risk subgroup of NCS-A females. As shown in Table 12, it appears that the largest gap exists between five and six risk factors amongst the female subsample. As such, the high-risk subgroup was operationalized by including female participants who had six or more risk factors, which accounted for the top 32.67% of the sample.

Table 12

The Distribution of Risk Factors Among NCS-A Female Youths with a Mental Illness

Number of Risk Factors	Percentage of Sample	Cumulative Percentage
0	3.64%	3.64%
1	8.19%	11.83%
2	11.12%	22.95%
3	14.72%	37.67%
4	14.62%	52.30%
5	15.05%	67.35%
6	11.93%	79.27%
7	9.47%	88.74%
8	5.87%	94.60%
9	3.36%	97.96%
10	1.33%	99.29%
11	0.62%	99.91%
12	0.09%	100%

Next, descriptive statistics were explored among the high- and low-risk female subgroup of people with mental illness within the NCS-A sample. As shown in Table 13, approximately 51% of the high-risk female subsample was resilient from violent victimization and the average age was approximately 16 years. The majority of the sample was White (59%), with 13% of the sample identifying as Black, 22% identifying as Hispanic, and approximately 6% percent identifying as Other race. Half of the high-risk female subsample had a diagnosis of an anxiety-related disorder, 48% had a diagnosis of a substance-related disorder, 18% had a bipolar-related disorder, 37% had a depression-related disorder, 33% had an impulse-control disorder, and 41% had a childhood-related disorder. Among the low-risk subsample of females with a mental disorder within the NCS-A, approximately 77% were not violently victimized (see Table 14). The average age of the low-risk subsample of females was 15 years. Approximately half of the sample was White (51.12%), 23% of the sample was Black, 20% Hispanic, and 6% reported Other race. Over half of the low-risk female subsample had a diagnosis of an anxiety-related disorder (54%), 9% were diagnosed with a bipolar-related disorder, 31% diagnosed with a

depression-related disorder, 8% diagnosed with substance-related disorder, 24% diagnosed with an impulse-control disorder, and 29% diagnosed with a childhood-related disorder.

Table 13

NCS-A High-Risk Female Youths with a Mental Illness Descriptive Statistics (n = 764)

	Mean or %[1]	SD or N	Min-Max
Resiliency from Victimization	50.19%	383	0-1
Individual-Level Protective Factors			
Positive Affect	2.40	.72	0-4.00
Perception of Self	6.20	1.79	0-10.00
Global Self-Esteem	2.07	.73	0-3.00
Religiosity	-.25	.84	-1.48-1.39
Self-Efficacy	1.74	.45	.09-3.00
Intelligence	98.62	13.91	59-134.00
Protective Factors Related to Social Support			
Peer Support	.20	.71	-2.45-1.12
Adult Support	1.99	.76	-.05-4.53
Family Connectedness	1.48	.60	0-3.00
Parental Connectedness	2.39	.65	0-3.11
Parental Monitoring	1.93	.80	0-3.24
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.18	.61	0-2.00
Commitment to School	2.00	.55	0-3.00
Neighborhood Cohesion	-.21	.80	-2.48-.92
Protective Factors Related to having a Mental Illness			
Service Utilization	59.22%	452	0-1
Control Variables			
Anxiety-Related Disorders	50.00%	382	0-1
Bipolar-Related Disorders	18.18%	139	0-1
Depression-Related Disorders	36.75%	281	0-1
Substance-Related Disorders	48.05%	367	0-1
Impulse-Control Disorder	33.24%	254	0-1
Childhood-Related Disorders	41.17%	314	0-1
Age	15.83	1.38	13-18
Black	13.38%	102	0-1
Hispanic	21.69%	166	0-1
White	59.09%	451	0-1
Other	5.84%	45	0-1
Poverty	2.84	1.07	1-4.00

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Table 14

NCS-A Low-Risk Females Youths with a Mental Illness Descriptive Statistics (n = 1,550)

	Mean or %[1]	SD or N	Min-Max
Lack of Violent Victimization	76.82%	1191	0-1
Individual-Level Protective Factors			
Positive Affect	2.54	.69	0-4.01
Perception of Self	6.37	1.68	.25-10.00
Global Self-Esteem	2.22	.67	0-3.03
Religiosity	.14	.84	-1.48-1.35
Self-Efficacy	1.90	.44	.18-3.00
Intelligence	99.37	15.03	42-134.23
Protective Factors Related to Social Support			
Peer Support	.11	.72	-2.44-1.54
Adult Support	1.99	.74	-.07-4.60
Family Connectedness	1.70	.58	-.10-3.00
Parental Connectedness	2.62	.49	0-3.33
Parental Monitoring	1.95	.72	0-3.34
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.29	.57	0-2.00
Commitment to School	2.31	.47	.11-3.01
Neighborhood Cohesion	-.14	.76	-2.48-.94
Protective Factors Related to having a Mental Illness			
Service Utilization	34.42%	533	0-1
Control Variables			
Anxiety-Related Disorders	54.34%	842	0-1
Bipolar-Related Disorders	8.87%	137	0-1
Depression-Related Disorders	30.61%	474	0-1
Substance-Related Disorders	8.55%	132	0-1
Impulse-Control Disorder	23.79%	369	0-1
Childhood-Related Disorders	28.81%	446	0-1
Age	15.21	1.47	13-18
Black	22.64%	351	0-1
Hispanic	19.87%	308	0-1
White	51.12%	792	0-1
Other	6.37%	99	0-1
Poverty	2.74	1.08	1-4.00

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

To examine how protective factors may differ across the high- and low-risk subgroup of female participants with a mental disorder, two logistic regression equations were employed

examining the effect of protective factors and control variables on resiliency from violent victimization. As shown in Table 15, one protective factor related to social support, one protective factor related institutions and neighborhoods, and one protective factor related to having a mental illness were significantly associated with resiliency from violent victimization for the high-risk female subsample. For high-risk female participants with a mental illness, the relationship to one's parents is important. In fact, among high-risk female people with mental disorders, there is an increase in the odds of being resilient from violent victimization by 81% for every one-point increase in the parental connectedness scale. Further, the more committed a high-risk female participant with a mental illness is to school, the odds of being resilient from violent victimization significantly increased (OR: 1.66). Finally, the odds of being resilient from violent victimization significantly decreased among high-risk female participants who utilized a mental health service (OR: .23). Four variables related to mental health diagnoses were significantly associated with resiliency from violent victimization. For high-risk female participants who were diagnosed with a substance-related (OR: .62), impulse-control (OR: .38), childhood-related (OR: .62), or anxiety-related disorders (OR: .35), the odds of being resilient from violent victimization significantly decreased compared to participants who were not diagnosed with those disorders.

Table 15

Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A High-Risk Female Youths with a Mental Illness (n = 764)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	.02	.19	1.03	.69-1.51
Perception of Self	-.06	.07	.94	.81-1.08
Global Self-Esteem	.16	.19	1.18	.81-1.72
Self-Efficacy	-.24	.31	.78	.42-1.46
Religiosity	-.22	.12	.80	.63-1.02
Intelligence	-.00	.01	1.00	.98-1.01
Protective Factors Related to Social Support				
Peer Support	.16	.15	1.17	.87-1.59
Adult Support	-.13	.16	.88	.63-1.21
Family Connectedness	-.17	.25	.85	.51-1.40
Parental Connectedness	.59**	.18	1.81	1.25-2.63
Parental Monitoring	-.04	.16	.96	.69-1.32
Protective Factors Related to Institutions & Neighborhoods				
Grades	-.30	.16	.74	.53-1.03
Commitment to School	.51*	.20	1.66	1.11-2.49
Neighborhood Cohesion	-.16	.17	.85	.60-1.21
Protective Factors Related to having a Mental Illness				
Service Utilization	-1.46***	.37	.23	.11-.49
Control Variables				
Anxiety Related Disorders	-1.04***	.27	.35	.20-.61
Bipolar Related Disorders	-.25	.38	.77	.36-1.67
Depression Related Disorders	-.30	.21	.74	.48-1.14
Substance Related Disorders	-.47*	.23	.62	.39-.99
Impulse Related Disorder	-.98***	.26	.38	.22-.63
Childhood Related Disorders	-.47*	.23	.62	.39-1.00
Age	.09	.09	1.09	.90-1.31
Black[1]	.14	.36	1.15	.55-2.38
Hispanic[1]	-.54	.38	.58	.27-1.27
Other[1]	-.76	.50	.47	.17-1.28
Poverty Category 1 (Income < 1.5)[2]	-.26	.45	.77	.31-1.92
Poverty Category 2 (Income ≤ 3)[2]	-.54	.41	.58	.25-1.34
Poverty Category 3 (Income ≤ 6)[2]	-.14	.35	.87	.43-1.75

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

As a comparison to the high-risk female subsample, Table 16 presents the findings for the low-risk female subgroup. For the low-risk female subsample of people with mental illness, one protective factor related to social support and one protective factor related to having a mental illness were significantly associated with not being violently victimized. As shown in Table 16,

being monitored by one's parents was significantly associated with a lack of violent victimization experiences. Specifically, there is an increase in the odds of being violently victimized by 39% (OR: .61) for every one-point increase in the parental monitoring scale. Similar to the high-risk female subsample, among the low-risk female subsample of people with mental illness, the odds of being violently victimized significantly increased (OR: .29) for participants who used a mental health service compared to those who did not. In addition to these protective factors, three variables related to diagnoses were significantly associated with a lack of violent victimization events. Specifically, the odds of being violently victimized significantly increased for low-risk females who are diagnosed with bipolar-related (OR: .54), substance-related (OR: .50), and childhood related disorders (OR: .57) compared to people who were not diagnosed with these disorders. Finally, two control variables were significantly associated with a lack of violent victimization events — age and race. More specifically, as age increased, the odds of being violently victimized increased (OR: .81). Further, the odds of being violently victimized increased (OR: .45) for those who report that they are Hispanic compared to those who report they were White.

Table 16

Multivariate Logistic Regression Predicting a Lack of Violent Victimization among NCS-A Low-Risk Female Youths with a Mental Illness (n = 1,550)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	.10	.19	1.10	.74-1.63
Perception of Self	-.02	.06	.98	.86-1.10
Global Self-Esteem	.18	.17	1.20	.85-1.70
Religiosity	-.01	.10	.99	.80-1.22
Self-Efficacy	-.35	.30	.70	.38-1.28
Intelligence	-.01	.01	.99	.98-1.00
Protective Factors Related to Social Support				
Peer Support	-.09	.13	.91	.70-1.19
Adult Support	-.10	.12	.91	.71-1.15
Family Connectedness	.19	.31	1.21	.65-2.24
Parental Connectedness	.10	.26	1.11	.65-1.88
Parental Monitoring	-.49***	.14	.61	.46-.82
Protective Factors Related to Institutions & Neighborhoods				
Grades	.26	.20	1.29	.87-1.93
Commitment to School	.21	.23	1.24	.77-1.98
Neighborhood Cohesion	.04	.15	1.04	.77-1.40
Protective Factors Related to having a Mental Illness				
Service Utilization	-1.25***	.24	.29	.18-.46
Control Variables				
Anxiety-Related Disorders	-.25	.20	.78	.52-1.16
Bipolar-Related Disorders	-.62*	.26	.54	.32-.91
Depression-Related Disorders	-.40	.23	.67	.42-1.07
Substance-Related Disorders	-.69**	.25	.50	.30-.83
Impulse-Control Disorder	-.29	.20	.74	.49-1.12
Childhood-Related Disorders	-.57***	.17	.57	.40-.79
Age	-.21*	.10	.81	.66-.99
Black[1]	-.53	.31	.59	.32-1.09
Hispanic[1]	-.79***	.20	.45	.30-.68
Other[1]	.02	.44	1.02	.42-2.47
Poverty Category 1 (Income < 1.5)[2]	.30	.22	1.36	.86-2.13
Poverty Category 2 (Income ≤ 3)[2]	.37	.31	1.45	.77-2.72
Poverty Category 3 (Income ≤ 6)[2]	-.05	.23	.95	.60-1.50

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

Supplementary analyses examining group differences based on biological sex using the dependent variable, resiliency from violent victimization within the past 12-months, were also assessed. As shown in Appendix C, there were several significant protective factors that increased the odds of being resilient from violent victimization within the past 12-months for

high-risk females including self-esteem (OR: 1.54, CI: 1.07, 2.86, p<.03) and parental connectedness (OR: 1.75, CI: 1.06, 2.91, p<.03). IQ (OR: .98, CI: .96, 1.00, p<.04) and service utilization (OR: .52, CI: .27, 1.01, p<.05) reduced the odds of being resilient from violent victimization within the past 12-months for high-risk females. Finally, several control variables were significantly associated with resiliency from violent victimization within the past 12-months for NCS-A high-risk females including age (OR: 1.58, CI: 1.28, 1.94, p<.001), Black (OR: .22, CI: .09, .52, p<.001), and substance-related disorder (OR: .32, CI: .17, .60, p<.001). Supplementary analyses for low-risk females were also explored to serve as a comparison to the high-risk subgroup. For low-risk females, service utilization (OR: .43, CI: .22, .83, p<.01) was significantly associated with a lack of violent victimization experiences within the past 12-months.

Analyses of NCS-A Males

To split the NCS-A males with a mental illness into high- and low-risk groups, a total risk distribution table was created utilizing the same research strategy described previously. As shown in Table 17, the largest gap appears to be between five and six risk factors. Thus, the high-risk male subsample was operationalized as people who had six or more risk factors, which accounted for the top 40.69% of the sample.

Table 17

The Distribution of Risk Factors Among NCS-A Male Youths with a Mental Illness

Number of Risk Factors	Percentage of Sample	Cumulative Percentage
0	2.49%	2.49%
1	5.42%	7.90%
2	8.51%	16.42%
3	12.71%	29.13%
4	14.87%	44.00%
5	15.31%	59.31%
6	14.65%	73.96%
7	11.17%	85.13%
8	8.07%	93.20%
9	3.59%	96.79%
10	2.21%	99.00%
11	0.94%	99.94%
12	0.06%	100%

For the high-risk male subsample of people with mental illness, approximately half of the sample was resilient from violent victimization (52%; see Table 18). The average age of the high-risk male sample was 16, and the majority of the sample was White (58%). Approximately 14% of the high-risk male sample was Black, 22% Hispanic, and 6% Other race. Over half of the high-risk male subsample was diagnosed with a substance-related disorder (60%), with 30% diagnosed with an anxiety-related disorder, 15% diagnosed with a bipolar-related disorder, 19% diagnosed with a depression-related disorder, 39% diagnosed with an impulse-control disorder, and 45% diagnosed with a childhood-related disorder. For the low-risk male subsample of people with mental illness, 78% of the sample was not violently victimized (see Table 19). The average age was 15, and half of the sample was White (52%). Further, approximately 20% were Black, 20% Hispanic, and 7% reported Other race. Approximately 42% of the low-risk male subsample was diagnosed with an anxiety-related disorder, 9% a bipolar-related disorder, 18% a depression-related disorder, 13% a substance-related disorder, 35% an impulse-control disorder, and 31% a childhood-related disorder.

Table 18

NCS-A High-Risk Male Youths with a Mental Illness Descriptive Statistics (n = 833)

	Mean or %[1]	SD or N	Min-Max
Resiliency from Victimization	51.59%	430	0-1
Individual-Level Protective Factors			
Positive Affect	2.63	.67	.25-4.00
Perception of Self	6.73	1.58	0-10.00
Global Self-Esteem	2.37	.62	0-3.06
Religiosity	-.41	.82	-1.72-1.35
Self-Efficacy	1.84	.49	.27-3.00
Intelligence	98.27	14.89	49-134.89
Protective Factors Related to Social Support			
Peer Support	-.06	.76	-2.45-1.15
Adult Support	2.02	.79	-.16-4.39
Family Connectedness	1.58	.54	-.01-3.00
Parental Connectedness	2.52	.54	0-3.23
Parental Monitoring	1.84	.74	-.01-3.04
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.00	.61	0-2.00
Commitment to School	1.86	.56	0-3.01
Neighborhood Cohesion	-.06	.77	-2.48-.95
Protective Factors Related to having a Mental Illness			
Service Utilization	48.69%	406	0-1
Control Variables			
Anxiety-Related Disorders	30.48%	254	0-1
Bipolar-Related Disorders	14.88%	124	0-1
Depression-Related Disorders	19.05%	159	0-1
Substance-Related Disorders	60.48%	504	0-1
Impulse-Control Disorder	39.17%	326	0-1
Childhood-Related Disorders	45.36%	378	0-1
Age	16.05	1.39	13-18
Black	14.40%	120	0-1
Hispanic	21.90%	182	0-1
White	57.74%	481	0-1
Other	5.95%	50	0-1
Poverty	2.83	1.08	1-4.00

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Table 19

NCS-A Low-Risk Male Youths with a Mental Illness Descriptive Statistics (n = 1,229)

	Mean or %[1]	SD or N	Min-Max
Lack of Victimization	78.12%	960	0-1
Individual-Level Protective Factors			
Positive Affect	2.65	.64	.25-4.01
Perception of Self	6.79	1.58	1.00-10.29
Global Self-Esteem	2.42	.58	0-3.07
Religiosity	-.11	.86	-1.49-1.33
Self-Efficacy	1.91	.44	.27-3.01
Intelligence	99.16	15.50	57-137.33
Protective Factors Related to Social Support			
Peer Support	-.17	.78	-2.48-1.18
Adult Support	2.02	.77	-.04-4.51
Family Connectedness	1.74	.51	0-3.00
Parental Connectedness	2.65	.41	0-3.25
Parental Monitoring	1.96	.70	-.01-3.25
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.20	.57	0-2.00
Commitment to School	2.16	.52	0-3.00
Neighborhood Cohesion	.04	.71	-2.48-.94
Protective Factors Related to having a Mental Illness			
Service Utilization	31.03%	381	0-1
Control Variables			
Anxiety-Related Disorders	42.29%	520	0-1
Bipolar-Related Disorders	9.17%	113	0-1
Depression-Related Disorders	18.10%	222	0-1
Substance-Related Disorders	12.74%	157	0-1
Impulse-Control Disorder	35.23%	433	0-1
Childhood-Related Disorders	31.57%	388	0-1
Age	15.12	1.52	13-18
Black	20.70%	254	0-1
Hispanic	20.21%	248	0-1
White	51.95%	638	0-1
Other	7.14%	88	0-1
Poverty	2.72	1.07	1-4.00

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Turning to the multivariate analyses, as shown in Table 20, one protective factor related to social support and one protective factor related to institutions and neighborhoods were significantly associated with resiliency from violent victimization for the high-risk male subsample of people with mental illness. Similar to the female high-risk subsample, parental connectedness and commitment to school were significantly associated with resiliency from violent victimization for the male high-risk subsample. In fact, for every one-point increase in the parental connectedness scale, there is a 41% increase in the odds of being resilient from

violent victimization (OR: 1.41). Similarly, for every one-point increase in the commitment to school scale, the odds of being resilient from violent victimization significantly increased by 91% (OR: 1.91). Two mental health diagnoses were significantly associated with resiliency from violent victimization. Specifically, for high-risk males who were diagnosed with a bipolar-related (OR: .54) or childhood-related disorders (OR: .54), the odds of being resilient from violent victimization significantly decreased compared to high-risk males who did not have those diagnoses. Finally, one control variable was significantly associated with resiliency from violent victimization including Other race. Specifically, the odds of being resilient from violent victimization decreases for participants who report Other race (OR: .53) compared to those who are White.

Table 20

Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A High-Risk Male Youths with a Mental Illness (n = 833)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	-.19	.23	.83	.52-1.33
Perception of Self	-.13	.08	.88	.74-1.04
Global Self-Esteem	-.11	.15	.89	.66-1.20
Religiosity	-.06	.16	.94	.67-1.30
Self-Efficacy	-.41	.23	.66	.42-1.05
Intelligence	-.00	.01	1.00	.98-1.01
Protective Factors Related to Social Support				
Peer Support	.27	.14	1.31	.99-1.74
Adult Support	-.11	.17	.90	.63-1.26
Family Connectedness	.07	.25	1.07	.65-1.78
Parental Connectedness	.35*	.16	1.41	1.03-1.94
Parental Monitoring	-.27	.15	.77	.56-1.04
Protective Factors Related to Institutions & Neighborhoods				
Grades	-.18	.19	.83	.57-1.22
Commitment to School	.65*	.26	1.91	1.13-3.23
Neighborhood Cohesion	-.04	.18	.96	.67-1.38
Protective Factors Related to having a Mental Illness				
Service Utilization	-.60	.33	.55	.28-1.06
Control Variables				
Anxiety-Related Disorders	.19	.30	1.21	.66-2.21
Bipolar-Related Disorders	-.62*	.27	.54	.31-.92
Depression-Related Disorders	-.45	.32	.64	.33-1.23
Substance-Related Disorders	-.25	.21	.78	.51-1.20
Impulse Control Disorder	-.24	.21	.78	.51-1.20
Childhood-Related Disorders	-.62**	.23	.54	.34-.86
Age	-.02	.07	.97	.85-1.12
Black[1]	-.04	.40	.96	.43-2.14
Hispanic[1]	-.61	.31	.54	.29-1.02
Other[1]	-.63*	.30	.53	.29-.98
Poverty Category 1 (Income < 1.5)[2]	-.55	.30	.57	.31-1.06
Poverty Category 2 (Income ≤ 3)[2]	.08	.27	1.09	.63-1.87
Poverty Category 3 (Income ≤ 6)[2]	.24	.19	1.27	.87-1.86

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01

Findings from the low-risk male subgroup examining a lack of violent victimization experiences were also explored to serve as a comparison to the NCS-A male high-risk subsample. For the male low-risk subsample of people with mental illness, one protective factor related to individual-level attributes, two protective factors related to social support, and one

protective factor related to having a mental illness were significantly associated with a lack of violent victimization events. As shown in Table 21, self-efficacy was significantly associated with not being violently victimized, albeit in the opposite direction than expected. Specifically, as self-efficacy increased, the odds of being violently victimized increased (OR: .46). Further, being connected to one's family appears to be particularly important amongst the male low-risk subsample. In fact, there is an increase in the odds of not being violently victimized by 41% for every one-point increase in the family connectedness scale (OR: 1.41). Further, for every one-point increase in the parental connectedness scale, the odds of not being violently victimized significantly increased by 72% (OR: 1.72). For people who utilized a mental health service in the low-risk male subgroup, the odds of being violently victimized increased (OR: .44). Two mental health diagnoses were significantly associated with a lack of violent victimization experiences — bipolar-related and depression-related diagnoses. More specifically, the odds of being violently victimized significantly increased for low-risk males who were diagnosed with a bipolar-related (OR: .44) or depression-related (OR: .53) disorder compared to low-risk males who were not diagnosed with these disorders. Finally, two control variables were also significantly associated with a lack of violent victimization experiences. Specifically, the odds of being violently victimized increased for those who report Hispanic (OR: .45) or Black (OR: .55) compared to White participants.

Table 21

Multivariate Logistic Regression Predicting a Lack of Violent Victimization among NCS-A Low-Risk Male Youths with a Mental Illness (n = 1,229)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	.04	.17	1.04	.73-1.48
Perception of Self	.02	.08	1.02	.87-1.21
Global Self-Esteem	-.06	.16	.94	.68-1.30
Religiosity	-.15	.14	.86	.64-1.15
Self-Efficacy	-.77**	.27	.46	.26-.80
Intelligence	-.00	.01	1.00	.99-1.01
Protective Factors Related to Social Support				
Peer Support	.06	.12	1.07	.84-1.36
Adult Support	-.02	.15	.98	.73-1.32
Family Connectedness	.34*	.17	1.41	.99-1.99
Parental Connectedness	.54*	.26	1.72	1.01-2.94
Parental Monitoring	.00	.18	1.00	.69-1.46
Protective Factors Related to Institutions & Neighborhoods				
Grades	.22	.19	1.25	.85-1.84
Commitment to School	.04	.27	1.04	.60-1.81
Neighborhood Cohesion	.21	.15	1.23	.91-1.67
Protective Factors Related to having a Mental Illness				
Service Utilization	-.82***	.18	.44	.31-.63
Control Variables				
Anxiety-Related Disorders	-.34	.20	.71	.47-1.07
Bipolar-Related Disorders	-.82*	.34	.44	.22-.87
Depression-Related Disorders	-.64*	.27	.53	.30-.92
Substance-Related Disorders	-.45	.33	.64	.32-1.24
Impulse-Control Disorder	-.32	.22	.72	.46-1.14
Childhood-Related Disorder	-.36	.21	.70	.45-1.07
Age	-.11	.08	.90	.76-1.05
Black[1]	-.59**	.22	.55	.36-.86
Hispanic[1]	-.80**	.27	.45	.26-.77
Other[1]	-.80	.59	.45	.14-1.47
Poverty Category 1 (Income < 1.5)[2]	-.54	.34	.58	.29-1.16
Poverty Category 2 (Income ≤ 3)[2]	-.21	.28	.81	.47-1.42
Poverty Category 3 (Income ≤ 6)[2]	-.35	.29	.70	.39-1.28

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

Interaction terms were incorporated into the full model assessing biological sex differences in the effects of the coefficients on resiliency for the high-risk subgroup. Three interaction terms were significant— service utilization X sex (OR: 2.39, CI: 1.00, 5.70, p<.05), impulse-control disorder X sex (OR: 2.14, CI: 1.09, 4.19, p<.03) and anxiety-related disorders X

sex (OR: 3.29, CI: 1.53, 7.07, p<.003). Using a mental health service or having an impulse-control or anxiety-related disorder has a greater effect on resiliency for high-risk males than for high-risk females. As a comparison to the high-risk model assessing biological sex differences in the coefficients, findings from the low-risk model are also presented. In the low-risk model assessing biological sex differences in the coefficients, two interaction terms were significant including parental monitoring (OR: 1.60, CI: 1.02, 2.53, p<.04) and the poverty index (OR: 1.33, CI: 1.03, 1.72, p<.03). Thus, parental monitoring and the poverty index have a greater effect on not being violently victimized for low-risk males than low-risk females.

As a final step, supplementary analyses were also conducted using the 12-month resiliency measure for NCS-A male subgroup. Similar to the protocol mentioned above, the NCS-A male subgroup was split into high- and low-risk subgroups, and then logistic regression equations were employed to examine resiliency within the past 12 months. As shown in Appendix C, one protective factor significantly increased the odds of resiliency from violent victimization within the past 12-months for high-risk males— commitment to school (OR: 1.27, CI: 1.07, 1.51, p<.007). Three control variables were significantly associated with resiliency from violent victimization within the past 12-months for high-risk males including Other race (OR: .19, CI: .07, .50, p<.001), childhood-related disorder (OR: .41, CI: .27, .64, p<.001), and impulse-control disorder (OR: .53, CI: .31, .92, p<.03). As a comparison to the findings presented in the high-risk male subgroup, findings for low-risk males were also explored in the supplementary analyses. For low-risk males, grades (OR: 1.27, CI: 1.03, 1.57, p<.02) significantly increased the odds of not being violently victimized within the past 12-months. Two control variables, Black (OR: .33, CI: .18, .63, p<.001) and bipolar-related disorder (OR: .36, CI:

.17, .75, p<.008), were significantly associated with a lack of violent victimization within the past 12-months for low-risk males.

Research Question Four- What protective factors influence resiliency for people with different diagnoses?

To answer the fourth research question, protective factors that influence resilience from violent victimization within different diagnoses were identified. As mentioned previously, the NCS-A and Pathways samples were utilized. Specifically, diagnostic categories including anxiety-related, childhood-related, bipolar-related, depression-related, substance-related, and impulse-control disorders were examined within the NCS-A sample and the substance-related diagnostic category within the Pathways sample. Similar to research question one and three, the NCS-A and Pathways samples were split into high and low-risk subsamples. Then, protective factors and control variables were entered into a series of logistic regression analyses to assess significant protective factors within each diagnostic category.[23]

Analyses of NCS-A Anxiety-Related Diagnostic Group

Because it is necessary to identify a high- and low-risk group of NCS-A adolescents diagnosed with an anxiety-related disorder, a total-risk factor index was created. As shown in Table 22, the largest gap between risk factors appears to occur between five and six risk factors amongst the anxiety-related diagnostic group. For this reason, the high-risk subgroup was

[23] The survey command in Stata was used to account for the sampling design of NCS-A. For the diagnostic subgroups, some subgroups had a stratum with a single sampling unit. To adjust for this, the command singleunit(certainty) was used because the svy command manual provided by Stata notes that by using the command singleunit(certainty), the units that have a single sampling unit within a stratum contribute nothing to the standard error (StataCorp, n.d., p. 4). Additionally, others have documented that the other two options (e.g., singleunti(missing) or singleunit(centered)) lead to upwardly biased estimates of standard errors (e.g., singleunit(centered)) or a lack of standard errors reported (e.g., singleunit(missing)) (see Samuels, 2010). Notably, all three methods were explored. Singleunit(missing) did not report standard errors, p-value, or confidence intervals. Singleunit(certainty) and singleunit(centered) reported the exact same substantive results.

operationalized by including participants diagnosed with an anxiety-related disorder who had six or more risk factors. Thus, the high-risk subgroup accounts for the top 31.37% of the sample.

Table 22

The Distribution of Risk Factors Among NCS-A Youths Diagnosed with Anxiety-Related Disorder

Number of Risk Factors	Percentage of Sample	Cumulative Percentage
0	3.87%	3.87%
1	8.63%	12.49%
2	12.10%	24.59%
3	14.85%	39.44%
4	14.90%	54.34%
5	14.29%	68.63%
6	10.87%	79.50%
7	9.19%	88.68%
8	5.60%	94.29%
9	3.25%	97.54%
10	1.57%	99.10%
11	0.78%	99.89%
12	0.11%	100%

Descriptive statistics were explored among the high- and low-risk participants diagnosed with an anxiety-related disorder. As shown in Table 23, 636 participants were high-risk and had an anxiety-related disorder. Approximately 42% of the high-risk sample were resilient from violent victimization. The average age was approximately 16, and a little over half of the sample were White (55%). Roughly 16% of the sample identified as Black, 22% identified as Hispanic, and 6% identified as Other race. The majority of the high-risk sample diagnosed with an anxiety-related disorder were female (approximately 60%). As shown in Table 24, 1,364 participants were low-risk and had a diagnosis of an anxiety-related disorder. For the low-risk subsample of participants, 75% were not violently victimized. The average age of the low-risk subsample was 15, and 38% of the sample were males. Half of the sample identified as White (50.37%), with 22% identifying as Black, 19% identifying as Hispanic, and approximately 9% identifying as Other race.

Table 23

NCS-A High-Risk Youths with a Anxiety-Related Diagnosis Descriptive Statistics (n = 636)

	Mean or %[1]	SD or N	Min-Max
Resiliency from Victimization	41.79%	266	0-1
Individual-Level Protective Factors			
Positive Affect	2.35	.71	0-4.00
Perception of Self	6.20	1.81	.25-10.00
Global Self-Esteem	1.99	.72	0-3.00
Religiosity	-.28	.83	-1.58-1.36
Self-Efficacy	1.72	.46	.27-3.00
Intelligence	97.41	14.62	54-134.00
Protective Factors Related to Social Support			
Peer Support	.07	.73	-2.45-1.13
Adult Support	2.01	.76	-.08-4.53
Family Connectedness	1.47	.57	.11-3.00
Parental Connectedness	2.41	.65	0-3.09
Parental Monitoring	1.98	.75	-.01-3.21
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.09	.62	0-2.00
Commitment to School	1.92	.57	0-3.00
Neighborhood Cohesion	-.20	.80	-2.48-.95
Protective Factors Related to having a Mental Illness			
Service Utilization	61.10%	389	0-1
Control Variables			
Age	15.95	1.38	13-18
Male	39.94%	254	0-1
Black	15.91%	101	0-1
Hispanic	22.46%	143	0-1
White	55.38%	352	0-1
Other	6.24%	40	0-1
Poverty	2.79	1.10	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Table 24

NCS-A Low-Risk Youths with an Anxiety-Related Diagnosis Descriptive Statistics (n = 1,364)

	Mean or %[1]	SD or N	Min-Max
Lack of Victimization	75.38%	1,028	0-1
Individual-Level Protective Factors			
Positive Affect	2.46	.67	0-4.01
Perception of Self	6.41	1.68	0-10.09
Global Self-Esteem	2.18	.66	0-3.08
Religiosity	.07	.85	-1.52-1.37
Self-Efficacy	1.88	.45	.18-3.01
Intelligence	99.37	15.20	42-137.04
Protective Factors Related to Social Support			
Peer Support	-.02	.74	-2.48-1.17
Adult Support	1.99	.74	-.03-4.60
Family Connectedness	1.69	.56	-.03-3.00
Parental Connectedness	2.62	.46	0-3.33
Parental Monitoring	1.98	.70	-.01-3.33
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.25	.59	0-2.00
Commitment to School	2.26	.48	0-3.02
Neighborhood Cohesion	-.11	.74	-2.48-.97
Protective Factors Related to having a Mental Illness			
Service Utilization	34.05%	464	0-1
Control Variables			
Age	15.12	1.49	13-18
Male	38.14%	520	0-1
Black	22.32%	304	0-1
Hispanic	18.67%	255	0-1
White	50.37%	687	0-1
Other	8.64%	118	0-1
Poverty	2.71	1.09	1-4.00

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

To examine how protective factors may differ across the high- and low-risk subgroup of participants diagnosed with an anxiety-related disorder, two logistic regression equations were employed examining the effect of protective factors and control variables on resiliency from violent victimization. As shown in Table 25, one protective factor related to individual-level attributes, three protective factors related to social support, one protective factor related to institutions and neighborhoods, and one protective factor related to having a mental illness were significantly associated with resiliency from violent victimization. For people who are high-risk and have an anxiety-related disorder, religiosity is an important protective factor, although in the unexpected direction. More specifically, an increase in the religiosity scale is associated with a

decrease in the odds of being resilient from violent victimization (OR: .52). Social support, especially peer and parental support, appears to be important for people who are high-risk and diagnosed with an anxiety-related disorder. Specifically, for every one-point increase in the peer support (OR: 1.41) or parental support (OR: 1.77) scales, there is an increase in the odds of being resilient from violent victimization by 41% and 77% respectively. Alternatively, for every-one point increase in the adult support scale, however, the odds of being resilient from violent victimization actually decreased by 28% (OR: .72). One protective factor related to the school was also important for high-risk participants diagnosed with an anxiety-related disorder — for every one-point increase in the commitment to school scale, there is a 68% increase in the odds of being resilient (OR: 1.68). Finally, the odds of being resilient from violent victimization significantly decreased among high-risk participants diagnosed with an anxiety-related disorder who utilized a mental health service (OR: .22). One control variable was significantly associated with resiliency from violent victimization. Specifically, for people who identified as Other race, the odds of being resilient from violent victimization decreased (OR: .09) compared to those who identified as White.

Table 25

Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A High-Risk Youths with Anxiety-Related Diagnosis (n = 636)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	.38	.22	1.46	.94-2.29
Perception of Self	-.09	.07	.91	.79-1.05
Global Self-Esteem	-.03	.21	.97	.64-1.49
Self-Efficacy	-.07	.33	.93	.48-1.82
Religiosity	-.65**	.20	.52	.35-.78
Intelligence	-.01	.01	.99	.98-1.01
Protective Factors Related to Social Support				
Peer Support	.34*	.17	1.41	1.00-1.98
Adult Support	-.33*	.15	.72	.53-.98
Family Connectedness	.12	.26	1.13	.67-1.91
Parental Connectedness	.57**	.20	1.77	1.16-2.68
Parental Monitoring	-.23	.18	.79	.55-1.14
Protective Factors Related to Institutions & Neighborhoods				
Grades	-.27	.17	.77	.54-1.08
Commitment to School	.52*	.22	1.68	1.08-2.63
Neighborhood Cohesion	.05	.20	1.05	.69-1.59
Protective Factors Related to having a Mental Illness				
Service Utilization	-1.53***	.38	.22	.10-.47
Control Variables				
Age	-.11	.10	.89	.73-1.08
Male	.63	.36	1.88	.90-3.95
Black[1]	.16	.46	1.18	.46-2.98
Hispanic[1]	-.63	.40	.53	.23-1.20
Other[1]	-2.43**	.75	.09	.02-.40
Poverty Category 1 (Income < 1.5)[2]	-.43	.32	.65	.34-1.26
Poverty Category 2 (Income ≤ 3)[2]	-.00	.38	1.00	.47-2.14
Poverty Category 3 (Income ≤ 6)[2]	.27	.38	1.30	.60-2.82

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

To examine if protective factors differ for high- and low-risk youth with an anxiety disorder, findings for the low-risk subgroup were presented in Table 26 to serve as a comparison. For the low-risk subgroup of people diagnosed with an anxiety-related disorder, two protective factors related to individual-level attributes, two protective factors related to social support, one protective factor related to institutions and neighborhoods, and one protective factor related to having a mental illness were significantly related to a lack of violent victimization events (see

Table 26). For example, for people who had higher levels of self-esteem, the odds of not being violently victimized significantly increased (OR: 1.90). Alternatively, for people with higher levels of self-efficacy, the odds of being violently victimized increased (OR: .47). Similar to the high-risk group of participants diagnosed with an anxiety-related disorder, for the low-risk group peer support was significantly associated with a lack of violent victimization events, albeit in the opposite direction. Specifically, for every-one point increase in the peer support scale, the odds of being violently victimized actually increased by 29% (OR: .71). Being connected to one's family, however, is an important protective factor for the low-risk subgroup diagnosed with an anxiety-related disorder — for every one-point increase in the family connectedness scale, the odds of not being violently victimized significantly increased by 54% (OR: 1.54). Grades are a significant protective factor for the low-risk group of people diagnosed with an anxiety-related disorder. Specifically, for people with higher grades, the odds of not being violently victimized significantly increased (OR: 1.39). Similar to the high-risk subsample of people diagnosed with an anxiety-related disorder, among the low-risk subsample, the odds of being violently victimized significantly increased (OR: .26) for participants who used a mental health service compared to participants who did not use a mental health service. Finally, three control variables were significantly associated with a lack of violent victimization. More specifically, for every-one point increase in age, there is a 13% increase in the odds of being violently victimized (OR: .87). People who identified as Black (OR: .61) or Hispanic (OR: .30) had lower odds of not being violently victimized compared to participants who identified as White.

Table 26

Multivariate Logistic Regression Predicting a Lack of Violent Victimization among NCS-A Low-Risk Youths with Anxiety-Related Diagnosis (n = 1,364)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	-.09	.11	.91	.72-1.15
Perception of Self	-.09	.06	.92	.80-1.04
Global Self-Esteem	.64***	.14	1.90	1.43-2.51
Self-Efficacy	-.75**	.28	.47	.26-.84
Religiosity	-.03	.10	.97	.78-1.19
Intelligence	-.00	.01	1.00	.98-1.01
Protective Factors Related to Social Support				
Peer Support	-.34*	.15	.71	.52-.96
Adult Support	-.24	.13	.78	.60-1.03
Family Connectedness	.43*	.20	1.54	1.02-2.34
Parental Connectedness	.18	.24	1.20	.74-1.95
Parental Monitoring	-.19	.21	.83	.54-1.27
Protective Factors Related to Institutions & Neighborhoods				
Grades	.33*	.14	1.39	1.05-1.84
Commitment to School	.29	.29	1.33	.74-1.95
Neighborhood Cohesion	.21	.14	1.24	.93-1.65
Protective Factors Related to having a Mental Illness				
Service Utilization	-1.36***	.20	.26	.17-.38
Control Variables				
Age	-.14*	.06	.87	.77-.98
Male	-.12	.22	.89	.56-1.39
Black[1]	-.49*	.21	.61	.39-.94
Hispanic[1]	-1.21***	.22	.30	.19-.46
Other[1]	.18	.22	1.19	.76-1.86
Poverty Category 1 (Income < 1.5)[2]	-.21	.23	.81	.50-1.29
Poverty Category 2 (Income ≤ 3)[2]	-.13	.30	.88	.48-1.60
Poverty Category 3 (Income ≤ 6)[2]	-.23	.21	.79	.52-1.20

Note. [1] = White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p<.05, **p<.01, *** p <.001

Supplementary analyses examining the anxiety-related disorder subgroup using the dependent variable, resiliency from violent victimization within the past 12-months, were also assessed. Specifically, the anxiety-related subgroup was split into high- and low-risk, and logistic regression models were employed for the supplementary analyses. As shown in Appendix C, one protective factor was significantly associated with resiliency from violent victimization within the past 12-months for high-risk youth diagnosed with an anxiety-related disorder—IQ (OR: .97,

CI: .95, .99, p<.01). Several control variables were significantly associated with resiliency from violent victimization within the past 12-months including Hispanic (OR: .48, CI: .24, .95, p<.04), Black (OR: .29, CI: .10, .79, p<.02), and Other race (OR: .15, CI: .04, .61, p<.009). As a comparison to the findings shown in the high-risk supplementary analyses, findings for low-risk youth with an anxiety-disorder were also explored. For NCS-A low-risk youth diagnosed with an anxiety-related disorder, two protective factors, self-esteem (OR: 1.15, CI: 1.03, 1.28, p<.02) and family connectedness (OR: 1.19, CI: 1.01, 1.41, p<.03), increased the odds of not being violently victimized within the past 12-months. Two factors increased the odds of being violently victimized within the past 12-months for low-risk youth diagnosed with an anxiety-related disorder: peer support (OR: .70, CI: .49, 1.00, p<.05) and service utilization (OR: .44, CI: .22, .85, p<.02).

Analyses of NCS-A Bipolar-Related Diagnostic Group

To identify the high- and low-risk subgroup of participants diagnosed with a bipolar-related disorder, a total-risk factor index was created. As shown in Table 27, the largest gap between risk factors appears to occur between six and seven risk factors for the bipolar-related diagnostic group. As such, the high-risk subgroup was operationalized by including participants who were diagnosed with a bipolar-related disorder who had seven or more risk factors, which accounted for the top 35% of the sample.

Table 27

The Distribution of Risk Factors Among NCS-A Youths Diagnosed with Bipolar-Related Disorder

Number of Risk Factors	Percentage of Sample	Cumulative Percentage
0	1.52%	1.52%
1	2.61%	4.13%
2	6.30%	10.43%
3	8.48%	18.91%
4	14.35%	33.26%
5	16.30%	49.57%
6	15.43%	65.00%
7	14.35%	79.35%
8	10.87%	90.22%
9	6.09%	96.30%
10	2.17%	98.48%
11	1.52%	100%

Descriptive statistics were then explored for the high- and low-risk subgroups. As shown in Table 28, 181 participants were high-risk and had a bipolar-related diagnosis. Approximately 37% of the high-risk subgroup of people were resilient from violent victimization. The average age was 16, and a little less than half of the subgroup were males (45.60%). Over half of the sample reported that they were White (57.69%), with 11% reporting Black, 27% reporting Hispanic, and 4% reporting Other race. As shown in Table 29, 333 participants were low-risk and had a bipolar-related disorder. For the low-risk subgroup, 63% were not violently victimized. The average age for the low-risk subgroup was 15, and less than half of the sample were males (46.41%). Half of the sample identified as White, with approximately 22% identifying as Black, 21% identifying as Hispanic, and 7% identifying as Other race.

Table 28

NCS-A High-Risk Youths with a Bipolar-Related Diagnosis Descriptive Statistics (N = 181)

	Mean or %[1]	SD or N	Min-Max
Resiliency from Victimization	37.46%	68	0-1
Individual-Level Protective Factors			
Squared Positive Affect	6.46	1.63	.06-16.00
Perception of Self	6.29	1.63	2.23-10.00
Squared Global Self-Esteem	4.61	2.72	0-9.00
Religiosity	-.25	.82	-1.45-1.33
Self-Efficacy	1.72	.47	.27-3.00
Intelligence	98.18	14.15	61-129.22
Protective Factors Related to Social Support			
Squared Peer Support	.46	.67	.00-5.98
Adult Support	2.08	.79	-.02-4.53
Family Connectedness	1.40	.62	0-3.00
Squared Parental Connectedness	6.19	2.58	0-9.68
Parental Monitoring	1.98	.68	0-3.02
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.09	.59	0-2.00
Squared Commitment to School	3.80	2.08	.05-9.00
Neighborhood Cohesion	-.11	.76	-2.48-.92
Protective Factors Related to having a Mental Illness			
Service Utilization	67.03%	121	0-1
Control Variables			
Age	16.04	1.44	13-18
Male	45.60%	82	0-1
Black	10.99%	20	0-1
Hispanic	27.47%	50	0-1
White	57.69%	104	0-1
Other	3.85%	7	0-1
Poverty	2.73	1.10	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Table 29

NCS-A Low-Risk Youths with a Bipolar-Related Diagnosis Descriptive Statistics (n = 333)

	Mean or %[1]	SD or N	Min-Max
Lack of Victimization	63.02%	210	0-1
Individual-Level Protective Factors			
Squared Positive Affect	6.60	3.13	.06-16.01
Perception of Self	6.43	1.68	1.25-9.77
Global Self-Esteem	2.17	.69	0-3.07
Religiosity	-.01	.83	-1.49-1.37
Self-Efficacy	1.86	.46	.36-3.00
Intelligence	98.76	15.75	58.56-134.14
Protective Factors Related to Social Support			
Peer Support	-.01	.76	-2.44-1.25
Adult Support	1.96	.76	-.03-4.38
Family Connectedness	1.64	.60	.22-3.02
Squared Parental Connectedness	6.75	2.39	.04-9.42
Parental Monitoring	2.02	.71	0-3.05
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.16	.59	0-2.00
Commitment to School	2.16	.51	.55-3.00
Neighborhood Cohesion	-.06	.75	-2.48-.95
Protective Factors Related to having a Mental Illness			
Service Utilization	40.59%	135	0-1
Control Variables			
Age	15.23	1.52	13-18
Male	46.41%	154	0-1
Black	21.86%	73	0-1
Hispanic	20.96%	70	0-1
White	50.30%	167	0-1
Other	6.89%	23	0-1
Poverty	2.73	1.06	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

To explore how protective factors may differ across the high- and low-risk subgroup of participants diagnosed with a bipolar-related disorder, two logistic regression equations were employed. As shown in Table 30, two protective factors related to individual-level attributes, one protective factor related to institutions and neighborhoods, and one protective factor related to having a mental illness were significantly related to resiliency from violent victimization.[24] For the high-risk subgroup of people diagnosed with a bipolar-related disorder, for every-one point

[24] Several variables were transformed to reduce left skewness of the distribution for the high-risk subgroup of people diagnosed with a bipolar-related disorder. Specifically, positive affect, global self-esteem, peer support, parental connectedness, and commitment to school were all squared to reduce the left skewness of the distribution as suggested by Cox (1999).

increase in the global self-esteem scale, the odds of being resilient from violent victimization significantly increased by 29% (OR: 1.29); however, for every one-point increase in the perceptions of one's self scale, the odds of being resilient from violent victimization significantly decreased by 48% (OR: .52). Further, the odds of being resilient from violent victimization increased as the commitment to school scale increased (OR: 1.46) for high-risk participants with a bipolar-related diagnosis. Among high-risk participants who utilized a mental health service, the odds of being resilient from violent victimization significantly decreased (OR: .24) compared to participants who did not utilize a mental health service. Finally, one control variable was significantly related to resiliency from violent victimization for high-risk participants with a bipolar-related disorder — race. Specifically, the odds of being resilient from violent victimization significantly decreased for those who identified as White (OR: .18) compared to participants who reported a non-White race.[25]

[25] Because there were so few participants who identified as Black, Hispanic, or Other race for the high-risk subgroup analysis of people diagnosed with a bipolar-related disorder, these races were collapsed into a dichotomous predictor of White (1) and non-White (0).

Table 30

Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A High-Risk Youths with Bipolar-Related Diagnosis (n = 181)

	b	se	OR	CI
Individual-Level Protective Factors				
Squared Positive Affect	.10	.08	1.10	.93-1.31
Perception of Self	-.66*	.24	.52	.31-.85
Squared Global Self-Esteem	.25**	.09	1.29	1.07-1.55
Self-Efficacy	-.70	.71	.50	.11-2.15
Religiosity	-.21	.31	.81	.43-1.53
Intelligence	.02	.02	1.03	.99-1.06
Protective Factors Related to Social Support				
Squared Peer Support	-.77	.64	.46	.12-1.72
Adult Support	.52	.35	1.69	.82-3.50
Family Connectedness	.17	.41	1.18	.50-2.77
Squared Parental Connectedness	.07	.12	1.07	.84-1.38
Parental Monitoring	.09	.24	1.09	.66-1.79
Protective Factors Related to Institutions & Neighborhoods				
Grades	-.70	.39	.50	.22-1.11
Squared Commitment to School	.38**	.13	1.46	1.12-1.90
Neighborhood Cohesion	-.39	.33	.68	.34-1.34
Protective Factors Related to having a Mental Illness				
Service Utilization	-1.42**	.50	.24	.08-.68
Control Variables				
Age	.08	.16	1.08	.78-1.49
Male	.35	.47	1.42	.54-3.72
White[1]	-1.71**	.62	.18	.05-.65
Poverty Category 1 (Income < 1.5)[2]	-.35	.73	.71	.16-3.17
Poverty Category 2 (Income ≤ 3)[2]	-1.13	.64	.32	.09-1.20
Poverty Category 3 (Income ≤ 6)[2]	.48	.48	1.62	.61-4.32

Note. [1]= Black, Hispanic, and Other were collapsed into a dichotomous variable to reflect nonwhite (0), white (1) due to low number of people in each category.
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01

To compare if protective factors may differ across high- and low-risk youth with a bipolar related disorder, findings from the low-risk model are also presented in Table 31. For the low-risk subgroup of people diagnosed with a bipolar-related disorder, one protective factor related to individual-level attributes, two protective factors related to social support, one protective factor related to institutions and neighborhoods, and one protective factor related to mental health were significantly associated with a lack of violent victimization events (see Table

31).[26] Among the low-risk group who have higher levels of positive affect, the odds of not being violently victimized significantly increased (OR: 1.17). Two types of social support were significantly associated with not being violently victimized — adult support and parental connectedness. More specifically, the odds of being violently victimized increased for every-one point increase in the adult support scale by 31% (OR: .69). For every one-point increase in the parental connectedness scale, however, the odds of not being violently victimized significantly increased by 42% (OR: 1.42). One factor related to the school was significantly associated with a lack of violent victimization events. For every one-point increase in the commitment to school scale, the odds of being violently victimized significantly increased by 66% (OR: .34). Finally, for low-risk participants with a bipolar-related diagnosis, the odds of being violently victimized significantly increased among those who utilized a mental health service (OR: .33) compared to those who did not.

[26] Similar to the high-risk subgroup of participants diagnosed with a bipolar-related disorder, for the low-risk subgroup several variables were highly skewed to the left. Therefore, positive affect, self-esteem, and parental connectedness were all squared to reduce the skewness to the left (Cox, 1999).

Table 31

Multivariate Logistic Regression Predicting a Lack of Violent Victimization among NCS-A Low-Risk Youths with Bipolar-Related Diagnosis (N = 333)

	b	se	OR	CI
Individual-Level Protective Factors				
Squared Positive Affect	.16*	.06	1.17	1.04-1.33
Perception of Self	.20	.12	1.22	.95-1.55
Squared Global Self-Esteem	-.33	.33	.72	.37-1.40
Self-Efficacy	.03	.42	1.04	.44-2.46
Religiosity	-.13	.17	.87	.61-1.24
Intelligence	.00	.01	1.00	.98-1.02
Protective Factors Related to Social Support				
Peer Support	-.22	.25	.80	.48-1.32
Adult Support	-.37*	.17	.69	.49-.97
Family Connectedness	-.61	.45	.54	.22-1.35
Squared Parental Connectedness	.35***	.10	1.42	1.16-1.74
Parental Monitoring	-.03	.24	.97	.59-1.59
Protective Factors Related to Institutions & Neighborhoods				
Grades	.22	.30	1.24	.67-2.30
Commitment to School	-1.07*	.41	.34	.15-.78
Neighborhood Cohesion	.23	.22	1.26	.81-1.97
Protective Factors Related to having a Mental Illness				
Service Utilization	-1.11***	.25	.33	.19-.55
Control Variables				
Age	-.14	.13	.87	.67-1.13
Male	-.57	.31	.57	.30-1.07
White[1]	.31	.47	1.37	.53-3.56
Poverty Category 1 (Income < 1.5) [2]	.58	.49	1.78	.65-4.85
Poverty Category 2 (Income ≤ 3) [2]	-.16	.39	.85	.39-1.86
Poverty Category 3 (Income ≤ 6) [2]	.23	.42	1.26	.54-2.94

Note. [1] = Black, Hispanic, and Other were collapsed into a dichotomous variable to reflect nonwhite (0), white (1) due to low number of people in each category.
[2] =Greater than 6 times the poverty line is the referent group
*p < .05, *** p < .001

Supplementary analyses were also conducted examining resiliency within the past 12-months for people with a bipolar-related disorder. Similar to the analyses above, the bipolar-related disorder subgroup was split into high- and low-risk, and logistic regression analyses were employed. In the supplementary analyses, one protective factor is significantly associated with an increase in the odds of resiliency from violent victimization within the past 12-months for high-risk youth diagnosed with a bipolar-related disorder: self-esteem (OR: 1.44, CI: 1.15, 1.80, p<.003). Self-efficacy (OR: .30, CI: .10, .96, p<.04) and grades (OR: .29, CI: .14, .62, p<.003)

significantly reduced the odds of resiliency from violent victimization within the past 12-months for high-risk youth with a bipolar-related disorder. Finally, age is the one control variable significantly associated with resiliency from violent victimization within the past 12-months for high-risk youth diagnosed with a bipolar related disorder (OR: 1.64, CI: 1.18, 2.25, p<.004). For low-risk youth with a bipolar-related disorder, two protective factors were significantly associated with a lack of violent victimization experiences within the past 12-months—parental connectedness (OR: 1.27, CI: 1.02, 1.58, p<.04) and IQ (OR: .97, CI: .94, 1.00, p<.03).

Analyses of NCS-A Depression-Related Diagnostic Group

A total risk distribution table for people diagnosed with a depression-related disorder was created to select high- and low-risk subgroups. As you can see in Table 32, it appears that the largest gap exists between five and six risk factors. Thus, the high-risk group of people diagnosed with a depression-related disorder was operationalized by including participants who had six or more risk factors, which accounts for the top 38.90% of the sample.

Table 32

The Distribution of Risk Factors Among NCS-A Youths Diagnosed with Depression-Related Disorder

Number of Risk Factors	Percentage of Sample	Cumulative Percentage
0	2.36%	2.36%
1	4.91%	7.27%
2	10.12%	17.39%
3	13.06%	30.45%
4	15.03%	45.48%
5	15.62%	61.10%
6	13.75%	74.85%
7	10.41%	85.27%
8	6.78%	92.04%
9	4.52%	96.56%
10	2.26%	98.82%
11	0.98%	99.80%
12	0.20%	100%

As shown in Table 33, 439 participants were high-risk and had a depression-related disorder. Among the high-risk group, approximately 47% were resilient from violent

victimization. The majority of the sample were female (64%) and the average age was approximately 16. A little over half of the sample identified as White (54%), while approximately 13% of the sample identified as Black, 24% identified as Hispanic, and 8% identified as Other race. As shown in Table 34, 695 participants were low-risk and diagnosed with a depression-related disorder. For the low-risk group of people, the majority of the subgroup was not violently victimized (70.69%). Approximately 32% of the sample were male, and the average age was 15. Half of the sample indicated they were White (51.22%), 21% indicated Black, 21% indicated Hispanic, and 6% indicated Other race.

Table 33

NCS-A High-Risk Youths with a Depression-Related Diagnosis Descriptive Statistics (n = 439)

	Mean or %[1]	SD or N	Min-Max
Resiliency from Victimization	47.37%	208	0-1
Individual-Level Protective Factors			
Positive Affect	2.36	.74	0-4.00
Perception of Self	6.09	1.84	0-10.00
Global Self-Esteem	2.00	.77	0-3.00
Religiosity	-.27	.86	-1.65-1.33
Self-Efficacy	1.78	.49	.09-3.00
Intelligence	99.53	14.84	54-134.03
Protective Factors Related to Social Support			
Peer Support	.08	.72	-2.13-1.13
Adult Support	1.99	.82	-.15-4.53
Family Connectedness	1.46	.56	-.01-3.00
Parental Connectedness	2.36	.66	0-3.09
Parental Monitoring	1.93	.77	-.01-3.13
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.15	.64	0-2.00
Commitment to School	1.95	.57	.22-3.00
Neighborhood Cohesion	-.29	.80	-2.48-.92
Protective Factors Related to having a Mental Illness			
Service Utilization	63.36%	278	0-1
Control Variables			
Age	15.99	1.34	13-18
Male	36.12%	158	0-1
Black	13.09%	57	0-1
Hispanic	23.93%	105	0-1
White	54.40%	239	0-1
Other	8.58%	38	0-1
Poverty	2.79	1.11	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Table 34

NCS-A Low-Risk Youths with a Depression-Related Diagnosis Descriptive Statistics (n = 695)

	Mean or %[1]	SD or N	Min-Max
Lack of Victimization	70.69%	491	0-1
Individual-Level Protective Factors			
Positive Affect	2.46	.74	0-4.00
Perception of Self	6.30	1.70	0-10.04
Global Self-Esteem	2.14	.71	0-3.00
Religiosity	.01	.90	-1.45-1.33
Self-Efficacy	1.91	.42	.54-3.01
Intelligence	100.55	15.02	58.92-134.31
Protective Factors Related to Social Support			
Peer Support	.02	.74	-2.44-1.53
Adult Support	1.97	.76	-.03-4.51
Family Connectedness	1.65	.58	-.05-3.00
Parental Connectedness	2.57	.52	0-3.31
Parental Monitoring	1.94	.71	0-3.17
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.31	.57	0-2.00
Commitment to School	2.20	.50	.44-3.00
Neighborhood Cohesion	-.15	.77	-2.48-.93
Protective Factors Related to having a Mental Illness			
Service Utilization	45.73%	318	0-1
Control Variables			
Age	15.31	1.46	13-18
Male	31.90%	222	0-1
Black	21.46%	149	0-1
Hispanic	20.89%	145	0-1
Other	6.44%	45	0-1
White	51.22%	356	0-1
Poverty	2.78	1.07	1-4.00

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Two logistic regression models were employed to examine if protective factors differ among the high- and low-risk subgroups of people diagnosed with a depression-related disorder. As shown in Table 35, for the high-risk subgroup, one protective factor related to individual-level attributes, two protective factors related to social support, one protective factor related to institutions and neighborhoods, and one protective factor related to having a mental illness were significantly associated with resiliency from violent victimization. Religiosity was significantly associated with resiliency for the high-risk subgroup of people diagnosed with a depression-related disorder. Specifically, for every one-point increase in the religiosity scale, there is a 31% decrease in the odds of being resilient from violent victimization (OR: .69). Peer support and

parental connectedness were two important social support protective factors. Specifically, the odds of being resilient from violent victimization increased as peer support (OR: 1.62) or parental connectedness (OR: 2.07) increased. Further, among high-risk participants with a depression-related disorder, the odds of being resilient from violent victimization significantly increased by 94% for every one-point increase in the commitment to school scale (OR: 1.94). Finally, among high-risk participants who utilized a mental health service, the odds of being resilient from violent victimization significantly decreased (OR: .44) compared to those who did not utilize a mental health service.

Table 35

Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A High-Risk Youths with Depression-Related Diagnosis (n = 439)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	-.26	.23	.77	.49-1.22
Perception of Self	-.05	.09	.95	.78-1.16
Global Self-Esteem	.28	.29	1.32	.73-2.39
Self-Efficacy	-.26	.32	.77	.40-1.46
Religiosity	-.38*	.18	.69	.48-.98
Intelligence	-.02	.01	.98	.96-1.01
Protective Factors Related to Social Support				
Peer Support	.48**	.18	1.62	1.12-2.36
Adult Support	-.15	.20	.86	.58-1.28
Family Connectedness	-.48	.35	.62	.31-1.25
Parental Connectedness	.73**	.28	2.07	1.18-3.65
Parental Monitoring	-.13	.24	.87	.53-1.43
Protective Factors Related to Institutions & Neighborhoods				
Grades	-.15	.21	.86	.56-1.33
Commitment to School	.66**	.23	1.94	1.22-3.09
Neighborhood Cohesion	.01	.22	1.01	.64-1.59
Protective Factors Related to having a Mental Illness				
Service Utilization	-.82**	.30	.44	.24-.81
Control Variables				
Age	-.06	.11	.94	.76-1.17
Male	.20	.38	1.22	.56-2.65
Black[1]	-.01	.53	.99	.34-2.90
Hispanic[1]	-.76	.46	.46	.18-1.19
Other[1]	-.39	.45	.68	.27-1.68
Poverty Category 1 (Income < 1.5)[2]	-.12	.50	.89	.32-2.47
Poverty Category 2 (Income ≤ 3)[2]	.32	.38	1.38	.63-3.01
Poverty Category 3 (Income ≤ 6)[2]	.59	.40	1.80	.79-4.07

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01

Table 36 presents the findings for the low-risk model of youth with a depression-related disorder to serve as comparison to the high-risk models. For low-risk participants diagnosed with a depression-related disorder, only one protective factor was significantly associated with a lack of violent victimization events. As shown in Table 36, among low-risk participants with a depression-related disorder who used a mental health service, the odds of being violently

victimized significantly increased (OR: .47) compared to those who did not use a mental health service.

Table 36

Multivariate Logistic Regression Predicting a Lack of Violent Victimization among NCS-A Low-Risk Youths with Depression-Related Diagnosis (n = 695)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	-.18	.18	.83	.58-1.20
Perception of Self	-.06	.08	.94	.80-1.11
Global Self-Esteem	.27	.19	1.31	.89-1.94
Self-Efficacy	-.27	.42	.76	.32-1.79
Religiosity	-.03	.14	.97	.73-1.28
Intelligence	.02	.01	1.02	1.00-1.04
Protective Factors Related to Social Support				
Peer Support	.14	.16	1.15	.83-1.59
Adult Support	-.11	.15	.90	.66-1.22
Family Connectedness	.50	.26	1.65	.97-2.81
Parental Connectedness	.17	.29	1.19	.66-2.14
Parental Monitoring	-.30	.18	.74	.51-1.07
Protective Factors Related to Institutions & Neighborhoods				
Grades	.24	.21	1.27	.83-1.94
Commitment to School	-.00	.27	1.00	.57-1.74
Neighborhood Cohesion	.19	.14	1.20	.90-1.74
Protective Factors Related to having a Mental Illness				
Service Utilization	-.75***	.20	.47	.31-.70
Control Variables[1]				
Age	-.23	.08	.79	.68-.93
Male	-.07	.28	.93	.52-1.65
Black[2]	-.07	.28	.94	.53-1.64
Hispanic[2]	.12	.26	1.13	.67-1.90
Poverty Category 1 (Income < 1.5)[3]	.04	.45	1.05	.42-2.60
Poverty Category 2 (Income ≤ 3)[3]	.43	.46	1.54	.60-3.95
Poverty Category 3 (Income ≤ 6)[3]	-.21	.34	.81	.40-1.62

Note. [1]= Other race removed from analyses due to low number of people in category (n=41).
[2] = White is the referent group.
[3]=Greater than 6 times the poverty line is the referent group
*** p <.001

Supplementary analyses examining resiliency from violent victimization within the past 12-months were also conducted for people with a depression-related disorder. Specifically, people with a depression-related disorder were split into high- and low-risk, and supplementary analyses with the 12-month resiliency measure were conducted. In these supplementary analyses, two protective factors were significantly associated with resiliency from violent victimization

within the past 12-months for high-risk youth diagnosed with a depression-related disorder. Both self-esteem (OR: 1.91, CI: 1.08, 3.40, p<.03) and IQ (OR: .98, CI: .95, 1.00, p<.04) were significant. Two control variables, age (OR: 1.33, CI: 1.07, 1.65, p<.01) and Hispanic (OR: .38, CI: .15, .98, p<.05), were also significantly associated with resiliency from violent victimization for high-risk youth diagnosed with a depression-related disorder. Supplementary analyses for the low-risk youth with a depression-related disorder were also explored as a comparison to the high-risk findings. For low-risk youth diagnosed with a depression-related disorder, family connectedness (p<.02, OR: 2.04, CI: 1.13, 3.70) and service utilization (p<.04, OR: .52, CI: .28, .95) were significantly associated with not being violently victimized within the past 12-months. Finally, biological sex (p<.03, OR: 2.16, CI: 1.07, 4.36) was significantly associated with not being violently victimized within the past 12-months

Analyses of NCS-A Impulse Control Diagnostic Group

To identify the high- and low-risk subgroup of participants diagnosed with an impulse-control disorder, a total-risk factor index was created. As shown in Table 37, the largest gap between risk factors appears to occur between five and six risk factors for the impulse-control diagnostic group. Therefore, the high-risk subgroup was operationalized as participants who had six or more risk factors, which accounts for the top 42.23% of the sample.

Table 37

The Distribution of Risk Factors Among NCS-A Youths Diagnosed with an Impulse-Control Disorder

Number of Risk Factors	Percentage of Sample	Cumulative Percentage
0	1.62%	1.62%
1	4.29%	5.91%
2	7.28%	13.19%
3	12.86%	26.05%
4	15.13%	41.18%
5	16.59%	57.77%
6	14.16%	71.93%
7	10.52%	82.44%
8	8.17%	90.61%
9	5.66%	96.28%
10	2.18%	98.46%
11	1.38%	99.84%
12	0.16%	100%

As shown in Table 38, 580 participants were high-risk and had a diagnosis of an impulse-control disorder. A little under half of the high-risk sample was resilient from violent victimization (45%). The average age was approximately 16 and 56% of the sample were males. Approximately 53% of the high-risk sample identified as White (53%), while 15% identified as Black, 25% as identified as Hispanic, and 6% identified as Other race. For the low-risk group diagnosed with an impulse-control disorder, 803 participants were included (see Table 39). The majority of the sample was not violently victimized (e.g., 77%). The average age for the low-risk subgroup was approximately 15, and 54% were males. Half of the sample reported that they were White, while 23% reported Black, 21% reported Hispanic, and 6% reported Other race.

Table 38

NCS-A High-Risk Youths with an Impulse-Control Diagnosis Descriptive Statistics (n = 580)

	Mean or %[1]	SD or N	Min-Max
Resiliency from Victimization	45.03%	261	0-1
Individual-Level Protective Factors			
Positive Affect	2.43	.75	0-4.01
Perception of Self	6.47	1.70	.50-10.02
Global Self-Esteem	2.15	.72	0-3.10
Religiosity	-.33	.85	-1.53-1.37
Self-Efficacy	1.74	.49	.27-3.00
Intelligence	97.22	15.00	53.96-134.40
Protective Factors Related to Social Support			
Peer Support	.02	.76	-2.45-1.14
Adult Support	1.98	.81	-.02-4.53
Family Connectedness	1.50	.57	.10-3.00
Parental Connectedness	2.45	.60	0-3.14
Parental Monitoring	1.94	.74	0-3.12
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.07	.60	0-2.00
Commitment to School	1.90	.60	0-3.01
Neighborhood Cohesion	-.13	.78	-2.48-.97
Protective Factors Related to having a Mental Illness			
Service Utilization	56.17%	326	0-1
Control Variables			
Age	15.84	1.40	13-18
Male	56.24%	326	0-1
Black	15.38%	89	0-1
Hispanic	25.30%	147	0-1
White	53.50%	310	0-1
Other	5.81%	34	0-1
Poverty	2.79	1.09	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Table 39

NCS-A Low-Risk Youths with an Impulse-Control Diagnosis Descriptive Statistics (N = 803)

	Mean or %[1]	SD or N	Min-Max
Lack of Victimization	76.97%	618	0-1
Individual-Level Protective Factors			
Positive Affect	2.55	.65	.50-4.00
Perception of Self	6.63	1.65	1.25-10.02
Global Self-Esteem	2.30	.63	0-3.00
Religiosity	.00	.85	-1.47-1.33
Self-Efficacy	1.85	.45	.18-3.00
Intelligence	99.25	14.64	58.52-133.86
Protective Factors Related to Social Support			
Peer Support	-.05	.79	-2.48-1.12
Adult Support	2.02	.75	-.04-4.60
Family Connectedness	1.70	.55	-.00-3.00
Parental Connectedness	2.63	.46	.20-3.27
Parental Monitoring	1.99	.70	0-3.28
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.23	.59	0-2.00
Commitment to School	2.20	.51	0-3.00
Neighborhood Cohesion	-.02	.78	-2.48-.93
Protective Factors Related to having a Mental Illness			
Service Utilization	32.86%	264	0-1
Control Variables			
Age	14.97	1.43	13-18
Male	53.98%	433	0-1
Black	22.88%	184	0-1
Hispanic	20.64%	166	0-1
White	50.00%	401	0-1
Other	6.47%	52	0-1
Poverty	2.70	1.08	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Two logistic regression models were employed to examine if protective factors differ among the high- and low-risk subgroups of people diagnosed with an impulse-control disorder. For the high-risk subgroup of participants diagnosed with an impulse-control disorder, three protective factors were significantly associated with resiliency from violent victimization (see Table 40). More specifically, one protective factor related to social support significantly increased the odds of being resilient from violent victimization — for every one-point increase in the parental connectedness scale, the odds of being resilient from violent victimization doubled (OR: 2.11). Further, among high-risk participants who were more committed to school, the odds of being resilient significantly increased (OR: 1.94). Finally, for high-risk participants who

utilized a mental health service, the odds of being resilient significantly decreased (OR: .32) compared to those who did not use a mental health service.

Table 40

Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A High-Risk Youths with an Impulse-Control Diagnosis (n = 580)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	.31	.26	1.37	.81-2.31
Perception of Self	-.06	.08	.94	.80-1.10
Global Self-Esteem	.32	.24	1.37	.84-2.25
Self-Efficacy	-.61	.33	.54	.28-1.06
Religiosity	-.05	.18	.95	.66-1.37
Intelligence	-.00	.01	1.00	.98-1.02
Protective Factors Related to Social Support				
Peer Support	.02	.16	1.02	.74-1.40
Adult Support	-.22	.15	.80	.59-1.09
Family Connectedness	-.16	.26	.85	.50-1.46
Parental Connectedness	.75**	.23	2.11	1.33-3.36
Parental Monitoring	-.28	.22	.75	.48-1.18
Protective Factors Related to Institutions & Neighborhoods				
Grades	-.43	.22	.65	.42-1.01
Commitment to School	.66**	.22	1.94	1.25-3.01
Neighborhood Cohesion	.14	.18	1.15	.79-1.66
Protective Factors Related to having a Mental Illness				
Service Utilization	-1.14**	.38	.32	.15-.69
Control Variables				
Age	-.01	.07	.98	.86-1.13
Male	.37	.29	1.45	.81-2.61
Black[1]	-.23	.48	.79	.30-2.10
Hispanic[1]	-.21	.31	.81	.43-1.52
Other[1]	-.90	.55	.41	.13-1.25
Poverty Category 1 (Income < 1.5)[2]	-.48	.33	.62	.31-1.21
Poverty Category 2 (Income ≤ 3)[2]	-.64	.35	.53	.26-1.08
Poverty Category 3 (Income ≤ 6)[2]	-.39	.32	.67	.35-1.30

Note. [1]= White is the referent group.
[2]=Greater than 6 times the poverty line is the referent group
** p < .01

Findings for the low-risk subgroup examining factors relevant for not being violently victimized are presented in Table 41. This analysis was performed to compare factors for high- and low-risk youth. For the low-risk subgroup of people diagnosed with an impulse-control disorder, one protective factor related to individual-level attributes, one protective factor related to social support, and one protective factor related to having a mental illness were significantly

associated with a lack of violent victimization events. As shown in Table 41, for every one-point increase in the positive affect scale, there is a 55% increase in the odds of not being violently victimized (OR: 1.55). Further, among low-risk youth with increased parental monitoring, the odds of being violently victimized increased (OR: .53). Finally, compared to people who did not utilize a mental health service, among low-risk youth who used a mental health service, the odds of being violently victimized significantly increased (OR: .42). One control variable was significantly associated with a lack of violent victimization experiences among the low-risk youth with an impulse-control disorder — for every one-point increase in age, there is a 27% increase in the odds of being violently victimized (OR: .73).

Table 41

Multivariate Logistic Regression Predicting a Lack of Violent Victimization among NCS-A Low-Risk Youths with an Impulse-Control Diagnosis (N = 803)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	.44*	.21	1.55	1.02-2.37
Perception of Self	.02	.09	1.02	.85-1.22
Global Self-Esteem	.33	.17	1.39	.98-1.96
Self-Efficacy	-.44	.35	.64	.31-1.31
Religiosity	.03	.16	1.03	.75-1.42
Intelligence	.00	.01	1.00	.98-1.02
Protective Factors Related to Social Support				
Peer Support	-.18	.15	.84	.62-1.13
Adult Support	-.05	.19	.95	.64-1.40
Family Connectedness	.11	.24	1.11	.68-1.81
Parental Connectedness	.34	.29	1.41	.78-2.53
Parental Monitoring	-.64*	.24	.53	.32-.87
Protective Factors Related to Institutions & Neighborhoods				
Grades	.52	.27	1.68	.98-2.87
Commitment to School	-.06	.35	.94	.46-1.92
Neighborhood Cohesion	.11	.15	1.12	.82-1.52
Protective Factors Related to having a Mental Illness				
Service Utilization	-.86*	.34	.42	.21-.84
Control Variables				
Age	-.31***	.07	.73	.63-.84
Male	-.08	.28	.92	.53-1.63
Black[1]	-.29	.33	.75	.38-1.46
Hispanic[1]	-.63	.31	.53	.28-1.01
Other[1]	-1.28	.69	.28	.07-1.13
Poverty Category 1 (Income < 1.5)[2]	.16	.28	1.18	.66-2.10
Poverty Category 2 (Income ≤ 3)[2]	.04	.40	1.04	.46-2.32
Poverty Category 3 (Income ≤ 6)[2]	-.34	.37	.71	.34-1.50

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, *** p <.001

Supplementary analyses for people with an impulse-control disorder were also explored, split by high- and low-risk using the 12-month resiliency measure. Results from supplementary analyses of high-risk youth diagnosed with an impulse-control disorder show that two protective factors, parental connectedness (OR: 1.88, CI: 1.06, 3.32, p<.03) and commitment to school (OR: 1.17, CI: 1.00, 1.36, p<.04), that were significantly associated with resiliency from violent

victimization within the past 12-months. Further, age (OR: 1.29, CI: 1.02, 1.64, p<.04), Black (OR: .27, CI: .11, .66, p<.005) and Other race (OR: .27, CI: .12, .61, p<.002) were significantly associated with resiliency from violent victimization within the past 12-months for the high-risk subgroup of youth diagnosed with an impulse-control disorder. Findings from the low-risk subgroup of people with an impulse-control disorder were also explored in the supplementary analyses to serve as a comparison to the high-risk subgroup. For low-risk youth with an impulse-control related disorder, three protective factors were significantly associated with not being violently victimized within the past 12-months: family connectedness (OR: 1.30, CI: 1.06, 1.59, p<.01), grades (OR: 1.52, CI: 1.19, 1.94, p<.001), and parental monitoring (OR: .49, CI: .31, .78, p<.003).

Analyses of NCS-A Childhood-Related Diagnostic Group

To identify the high- and low-risk groups, a total risk distribution table was created. As shown in Table 42, the largest gap appears to be between six and seven risk factors. For this reason, the high-risk group of people diagnosed with a childhood-related disorder was operationalized by including participants who had seven or more risk factors, which accounted for the top 30.80% of the sample.

Table 42

The Distribution of Risk Factors Among NCS-A Youths Diagnosed with a Childhood-Related Disorder

Number of Risk Factors	Percentage of Sample	Cumulative Percentage
0	2.31%	2.31%
1	5.74%	8.05%
2	6.71%	14.77%
3	11.33%	26.10%
4	13.94%	40.04%
5	15.29%	55.33%
6	13.87%	69.20%
7	11.63%	80.84%
8	9.40%	90.23%
9	4.77%	95.00%
10	3.06%	98.06%
11	1.72%	99.78%
12	0.22%	100%

As shown in Table 43, 479 participants were high-risk and diagnosed with a childhood-related disorder (e.g., attention deficit disorder, separation anxiety disorder, or conduct disorder). Among the high-risk subgroup of youth diagnosed with a childhood-related disorder, approximately 36% were resilient from violent victimization. The average age of the high-risk group was about 16, and 56% were males. Half of the sample reported being White, while 14% reported being Black, 27% reported being Hispanic, and 6% reported Other race. For the low-risk group of people diagnosed with a childhood-related disorder, 1,044 participants were included (see Table 44). Approximately 67% were not violently victimized. The average age was 15 and a little under half of the sample were males (47.38%). Approximately 45% of the low-risk sample identified as White, with 26% identifying as Black, 23% identifying as Hispanic, and 6% identifying as Other race.

Table 43

NCS-A High-Risk Youths with a Childhood-Related Diagnosis Descriptive Statistics (n = 479)

	Mean or %[1]	SD or N	Min-Max
Resiliency from Victimization	35.73%	171	0-1
Individual-Level Protective Factors			
Positive Affect	2.47	.75	.25-4.00
Perception of Self	6.43	1.84	.50-10.01
Global Self-Esteem	2.15	.72	0-3.00
Religiosity	-.38	.83	-1.51-1.33
Self-Efficacy	1.74	.49	.27-3.00
Intelligence	96.65	14.94	54.00-135.04
Protective Factors Related to Social Support			
Peer Support	.06	.76	-2.44-1.12
Adult Support	2.01	.82	-.10-4.54
Family Connectedness	1.48	.59	-.01-3.00
Parental Connectedness	2.43	.66	0-3.04
Parental Monitoring	1.94	.78	0-3.01
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.01	.63	0-2.00
Commitment to School	1.84	.62	0-3.00
Neighborhood Cohesion	-.20	.77	-2.48-.92
Protective Factors Related to having a Mental Illness			
Service Utilization	66.35%	318	0-1
Control Variables			
Age	16.10	1.34	13-18
Male	56.17%	269	0-1
Black	13.99%	67	0-1
Hispanic	26.95%	129	0-1
White	52.88%	253	0-1
Other	6.17%	29	0-1
Poverty	2.78	1.13	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Table 44

NCS-A Low-Risk Youths with a Childhood-Related Diagnosis Descriptive Statistics (n = 1,044)

	Mean or %[1]	SD or N	Min-Max
Lack of Victimization	67.25%	702	0-1
Individual-Level Protective Factors			
Positive Affect	2.55	.70	0-4.00
Perception of Self	6.62	1.76	.50-10.00
Global Self-Esteem	2.26	.68	0-3.00
Religiosity	.03	.85	-1.47-1.33
Self-Efficacy	1.86	.47	.36-3.00
Intelligence	96.97	15.33	54.00-134.37
Protective Factors Related to Social Support			
Peer Support	-.02	.81	-2.45-1.17
Adult Support	1.98	.77	-.07-4.38
Family Connectedness	1.71	.57	-.02-3.00
Parental Connectedness	2.64	.47	0-3.22
Parental Monitoring	2.01	.73	-.00-3.35
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.15	.58	0-2.00
Commitment to School	2.20	.53	0-3.00
Neighborhood Cohesion	-.06	.76	-2.48-.92
Protective Factors Related to having a Mental Illness			
Service Utilization	40.04%	418	0-1
Control Variables			
Age	15.14	1.46	13-18
Male	47.38%	495	0-1
Black	26.02%	272	0-1
Hispanic	23.35%	244	0-1
White	44.99%	470	0-1
Other	5.62%	59	0-1
Poverty	2.64	1.08	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

To examine if protective factors differ for the high- and low-risk subgroups of people diagnosed with a childhood-related disorder, two logistic regression models were utilized. As shown in Table 45, for the high-risk subgroup of people diagnosed with a childhood-related disorder, one protective factor related to having a mental illness were significantly associated with resiliency from violent victimization. For high-risk participants who utilized a mental health service, the odds of being resilient from violent victimization significantly decreased (OR: .47) compared to participants who did not use a mental health service.

Table 45

Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A High-Risk Youths with Childhood-Related Diagnosis (n = 479)

	b	Se	OR	CI
Individual-Level Protective Factors				
Positive Affect	.18	.22	1.20	.76-1.89
Perception of Self	-.06	.07	.94	.82-1.08
Global Self-Esteem	.11	.22	1.12	.71-1.77
Self-Efficacy	.09	.34	1.10	.55-2.20
Religiosity	-.02	.14	.98	.72-1.31
Intelligence	-.00	.01	1.00	.97-1.02
Protective Factors Related to Social Support				
Peer Support	-.30	.19	.74	.50-1.10
Adult Support	-.04	.21	.96	.62-1.47
Family Connectedness	.07	.23	1.07	.67-1.70
Parental Connectedness	.27	.22	1.31	.84-2.05
Parental Monitoring	-.16	.19	.85	.58-1.25
Protective Factors Related to Institutions & Neighborhoods				
Grades	-.04	.28	.95	.54-1.70
Commitment to School	.03	.22	1.03	.65-1.63
Neighborhood Cohesion	-.02	.24	.97	.59-1.60
Protective Factors Related to having a Mental Illness				
Service Utilization	-.75*	.36	.47	.23-.98
Control Variables				
Age	-.11	.09	.90	.75-1.08
Male	-.08	.32	.92	.48-1.78
Black[1]	.33	.44	.72	.29-1.77
Hispanic[1]	-.55	.40	.57	.25-1.31
Other[1]	-1.09	.66	.33	.09-1.28
Poverty Category 1 (Income < 1.5)[2]	-.50	.46	.61	.23-1.56
Poverty Category 2 (Income ≤ 3)[2]	.13	.42	1.14	.48-2.70
Poverty Category 3 (Income ≤ 6)[2]	.01	.30	1.01	.55-1.85

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05

As a comparison to the high-risk model, Table 46 presents the findings for the low-risk subgroup of people with a childhood-related disorder. As noted prior, the low-risk analyses illustrate factors that are relevant for not being violently victimized for the low-risk group. For the low-risk subgroup of people diagnosed with a childhood-related disorder, one protective factor related to social support and one protective factor related to having a mental illness were significantly associated with not being violently victimized. As shown in Table 46, for every one-point increase in the adult support scale, there is a significant increase in the odds of being

violently victimized by 29% (OR: .71). Further, among low-risk participants who utilized a mental health service, the odds of being violently victimized significantly increased (OR: .42). In addition, two control variables were significantly associated with a lack of violent victimization including age and race. Specifically, the odds of being violently victimized significantly increased as age increased (OR: .84). Further, among low-risk participants who reported that they were Hispanic (OR: .33), the odds of experiencing a violent victimization event significantly increased compared to people who reported that they were White.

Table 46

Multivariate Logistic Regression Predicting a Lack of Violent Victimization among NCS-A Low-Risk Youths with Childhood-Related Diagnosis (n = 1,044)

	b	se	OR	CI
Individual-Level Protective Factors				
Positive Affect	.04	.20	1.04	.69-1.57
Perception of Self	-.08	.07	.92	.79-1.07
Global Self-Esteem	.30*	.15	1.36	1.01-1.83
Self-Efficacy	-.39	.28	.68	.38-1.19
Religiosity	-.13	.12	.88	.69-1.12
Intelligence	-.00	.01	.99	.98-1.01
Protective Factors Related to Social Support				
Peer Support	-.02	.14	.98	.74-1.30
Adult Support	-.34**	.11	.71	.56-.89
Family Connectedness	.19	.23	1.20	.75-1.93
Parental Connectedness	.34	.20	1.41	.93-2.14
Parental Monitoring	-.11	.19	.89	.60-1.32
Protective Factors Related to Institutions & Neighborhoods				
Grades	.03	.21	1.03	.67-1.58
Commitment to School	.41	.30	1.51	.83-2.75
Neighborhood Cohesion	.05	.13	1.05	.81-1.37
Protective Factors Related to having a Mental Illness				
Service Utilization	-.87***	.19	.42	.28-.62
Control Variables				
Age	-.18*	.07	.84	.73-.96
Male	.17	.22	1.19	.76-1.86
Black[1]	-.41	.25	.66	.40-1.11
Hispanic[1]	-1.10***	.21	.33	.22-.50
Other[1]	-.44	.46	.64	.25-1.63
Poverty Category 1 (Income < 1.5)[2]	-.20	.21	.82	.53-1.25
Poverty Category 2 (Income ≤ 3)[2]	-.04	.37	.96	.45-2.06
Poverty Category 3 (Income ≤ 6)[2]	-.11	.31	.89	.48-1.67

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

Supplementary analyses were also conducted examining resiliency from violent victimization within the past 12-months for high-risk youth diagnosed with a childhood-related disorder. Specifically, people with a childhood-related disorder were split into high- and low-risk subgroups, and logistic regression models were used to examine the effect of protective factors on resiliency within the past 12-months. Two protective factors, parental connectedness (OR: 1.15, CI: 1.01, 1.30, $p<.04$) and service utilization (OR: .45, CI: .27, .77, $p<.005$), were significantly associated with resiliency from violent victimization within the past 12-months for high-risk youth diagnosed with a childhood-related disorder including. One control variable was significantly associated with resiliency from violent victimization within the past 12-months—Black (OR: .34, CI: .14, .83, $p<.02$). As a comparison to the high-risk subgroup, findings for the low-risk subgroup of youth with a childhood-related disorder were also explored in the supplementary analyses. For low-risk youth diagnosed with a childhood-related disorder, service utilization (OR: .54, CI: .34, .86, $p<.01$) was significantly associated with a lack of violent victimization.

Analyses of NCS-A Substance-Related Diagnostic Group

To create high and low-risk subgroups of youth diagnosed with a substance-related disorder within the NCS-A, a total-risk factor index was created. As shown in the total risk distribution table (Table 47), it appears that the largest gap between risk factors exists between seven and eight risk factors. As such, the high-risk subgroup of people diagnosed with a substance-related disorder included participants who had eight or more risk factors. Therefore, the high-risk group accounted for the top 36.28% of the sample.

Table 47

The Distribution of Risk Factors Among NCS-A Youths Diagnosed with Substance-Related Disorder

Number of Risk Factors	Percentage of Sample	Cumulative Percentage
1	0.29%	0.29%
2	0.88%	1.18%
3	4.33%	5.51%
4	7.28%	12.78%
5	12.29%	25.07%
6	17.21%	42.28%
7	21.44%	63.72%
8	17.31%	81.02%
9	10.03%	91.05%
10	6.00%	97.05%
11	2.65%	99.71%
12	0.29%	100%

As shown in Table 48, 420 participants were high-risk and had a diagnosis of a substance-related disorder. Approximately 42% of the high-risk subgroup of people diagnosed with a substance related disorder was resilient from violent victimization. The average age of the high-risk subgroup was 16 and a little over half were males (55.87%). Over half of the sample indicated they were White (61%), while 7% indicated Black and 26% indicated Hispanic. As shown in Table 49, 735 participants were low-risk and diagnosed with a substance-related disorder. Approximately 60% of the low-risk subgroup was not violently victimized. Over half of the sample were males (57%) and the average age was 16. Further, 63% of the sample were White, 10% were Black, 21% were Hispanic, and 6% reported Other race.

Table 48

NCS-A High-Risk Youths with a Substance-Related Diagnosis Descriptive Statistics (n = 420)

	Mean or %[1]	SD or N	Min-Max
Resiliency from Victimization	42.01%	176	0-1
Individual-Level Protective Factors			
Squared Positive Affect	6.67	3.26	.06-16
Perception of Self	6.38	1.69	1-10.00
Squared Global Self-Esteem	5.39	2.78	0-9.00
Religiosity	-.46	.79	-1.47-1.33
Squared Self-Efficacy	3.27	1.66	.07-8.46
Intelligence	98.53	15.10	57-134.00
Protective Factors Related to Social Support			
Peer Support	.06	.75	-2.44-1.12
Adult Support	1.98	.80	-.01-4.53
Family Connectedness	1.43	.61	0-3.00
Parental Connectedness	2.37	.66	0-3.08
Parental Monitoring	1.81	.79	-.02-3.03
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.06	.64	0-2.00
Squared Commitment to School	3.74	2.09	0-9.00
Neighborhood Cohesion	-.22	.79	-2.48-.92
Protective Factors Related to having a Mental Illness			
Service Utilization	63.00%	265	0-1
Control Variables			
Age	16.32	1.20	13-18
Male	55.87%	235	0-1
Black	6.81%	29	0-1
Hispanic	25.82%	108	0-1
White	61.03%	256	0-1
Poverty	2.90	1.05	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Table 49

NCS-A Low-Risk Youths with a Substance-Related Diagnosis Descriptive Statistics (n = 735)

	Mean or %[1]	SD or N	Min-Max
Lack of Victimization	60.04%	441	0-1
Individual-Level Protective Factors			
Squared Positive Affect	7.15	3.34	.06-16
Perception of Self	6.45	1.57	0-10.00
Global Self-Esteem	2.37	.66	0-3.00
Religiosity	-.38	.82	-1.53-1.33
Self-Efficacy	1.85	.45	.27-3.00
Intelligence	98.21	14.33	49-137.00
Protective Factors Related to Social Support			
Peer Support	.04	.73	-2.44-1.13
Adult Support	1.97	.74	-.10-4.38
Family Connectedness	1.59	.53	-.00-3.00
Parental Connectedness	2.51	.55	.20-3.18
Parental Monitoring	1.83	.77	-.02-3.17
Protective Factors Related to Institutions & Neighborhoods			
Grades	1.10	.60	0-2.00
Squared Commitment to School	4.16	2.11	.01-9.00
Neighborhood Cohesion	-.10	.77	-2.49-.92
Protective Factors Related to having a Mental Illness			
Service Utilization	42.91%	315	0-1
Control Variables			
Age	16.26	1.30	13-18
Male	57.55%	423	0-1
Black	10.51%	77	0-1
Hispanic	20.75%	152	0-1
White	62.67%	461	0-1
Other	6.06%	44	0-1
Poverty	2.86	1.04	1-4

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

To examine if protective factors differ among the high- and low-risk subgroups of youth diagnosed with a substance-related disorder, two logistic regression models were used. As shown in Table 50, two protective factors related to social support and one related to having a mental illness were significant protective factors for the high-risk subgroup.[27] Specifically, being connected to one's parents appears to be especially important for high-risk youth with a substance-related disorder in that the more connected one is to their parent, the odds of being

[27] Several variables were transformed to reduce left skewness of the distribution for the high-risk subgroup of people diagnosed with a substance-related disorder. Specifically, positive affect, global self-esteem, self-efficacy, and commitment to school were all squared to reduce the left skewness of the distribution as suggested by Cox (1999).

resilient from violent victimization significantly increased (OR: 1.76). Further, for every one-point increase in the parental monitoring scale, there is a 40% decrease in the odds of being resilient from violent victimization (OR: .60). Finally, among high-risk youth with a substance-related disorder who used a mental health service, the odds of being resilient from violent victimization significantly decreased (OR: .25) compared to youth who did not use a mental health service.

Table 50

Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A High-Risk Youths with Substance-Related Diagnosis (n = 420)

	b	se	OR	CI
Individual-Level Protective Factors				
Squared Positive Affect	.01	.06	1.01	.89-1.15
Perception of Self	-.13	.09	.88	.73-1.07
Squared Global Self-Esteem	.07	.07	1.07	.92-1.25
Squared Self-Efficacy	.10	.11	1.11	.88-1.38
Religiosity	-.05	.18	.95	.65-1.38
Intelligence	-.00	.01	.99	.97-1.02
Protective Factors Related to Social Support				
Peer Support	.05	.18	1.06	.73-1.53
Adult Support	-.09	.21	.91	.60-1.38
Family Connectedness	-.11	.31	.89	.47-1.67
Parental Connectedness	.56*	.26	1.76	1.04-2.96
Parental Monitoring	-.51**	.16	.60	.43-.83
Protective Factors Related to Institutions & Neighborhoods				
Grades	-.21	.20	.81	.53-1.22
Squared Commitment to School	.13	.08	1.14	.96-1.35
Neighborhood Cohesion	-.24	.19	.78	.53-1.16
Protective Factors Related to having a Mental Illness				
Service Utilization	-1.38***	.27	.25	.14-.43
Control Variables[1]				
Age	.06	.14	1.07	.80-1.42
Male	.01	.31	1.01	.54-1.90
Black[2]	-.47	.56	.63	.20-1.97
Hispanic[2]	-.03	.44	.97	.39-2.38
Poverty Category 1 (Income < 1.5)[3]	.07	.40	1.08	.48-2.41
Poverty Category 2 (Income ≤ 3)[3]	-.09	.37	.92	.43-1.94
Poverty Category 3 (Income ≤ 6)[3]	.45	.30	1.57	.86-2.87

Note. [1]= Other race removed from analyses due to low number (n= 27)
[2]= White is the referent group.
[3]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01

As a comparison to the findings of high-risk youth with a substance-related disorder, findings from the low-risk model examining factors that are relevant for not being violently victimized are displayed in Table 51. Among low-risk youth with a substance related disorder, only one protective factor was significantly associated with a lack of violent victimization experiences.[28] As shown in Table 51, among low-risk participants who used a mental health service, the odds of being violently victimized increased (OR: .43) compared to participants who did not use a mental health service. Two control variables were significantly associated with a lack of violent victimization experiences — for low-risk participants who are Black (OR: .41) or Hispanic (OR: .43), the odds of being violently victimized significantly increased compared to White participants.

[28] Similar to the high-risk subgroup of participants diagnosed with a substance-related disorder, for the low-risk subgroup two variables were highly skewed to the left. Therefore, positive affect and commitment to school were squared to reduce the skewness to the left (Cox, 1999).

Table 51

Multivariate Logistic Regression Predicting a Lack of Violent Victimization among NCS-A Low-Risk Youths with Substance-Related Diagnosis (n = 735)

	b	se	OR	CI
Individual-Level Protective Factors				
Squared Positive Affect	.03	.05	1.03	.92-1.15
Perception of Self	.06	.10	1.06	.86-1.30
Global Self-Esteem	.08	.24	1.08	.67-1.76
Self-Efficacy	-.37	.27	.69	.40-1.18
Religiosity	-.21	.18	.81	.56-1.16
Intelligence	-.00	.01	1.00	.98-1.02
Protective Factors Related to Social Support				
Peer Support	.01	.15	1.01	.74-1.37
Adult Support	.18	.25	1.20	.73-1.99
Family Connectedness	.20	.21	1.22	.80-1.88
Parental Connectedness	-.35	.27	.70	.40-1.22
Parental Monitoring	-.23	.13	.80	.61-1.05
Protective Factors Related to Institutions & Neighborhoods				
Grades	-.11	.18	.90	.62-1.30
Squared Commitment to School	.12	.08	1.12	.95-1.33
Neighborhood Cohesion	.01	.18	1.01	.71-1.45
Protective Factors Related to having a Mental Illness				
Service Utilization	-.84***	.22	.43	.27-.68
Control Variables				
Age	.02	.10	1.02	.83-1.25
Male	.11	.33	1.11	.57-2.16
Black[1]	-.90*	.38	.41	.19-.89
Hispanic[1]	-.85*	.32	.43	.22-.83
Other[1]	-.68	.36	.50	.24-1.04
Poverty Category 1 (Income < 1.5)[2]	-.48	.33	.62	.31-1.21
Poverty Category 2 (Income ≤ 3)[2]	.44	.34	1.56	.78-3.10
Poverty Category 3 (Income ≤ 6)[2]	-.07	.28	.93	.53-1.63

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*** p <.001

Supplementary analyses for the substance-related subgroup were also conducted. That is, people with a substance-related disorder were split into high- and low-risk and logistic regression models were employed using the resiliency from violent victimization measure within the past 12-months. Self-esteem (OR: 1.17, CI: 1.03, 1.33, p<.02) and parental connectedness (OR: 1.17, CI: 1.00, 1.36, p<.05) increased the odds of resiliency from violent victimization within the past 12-months for high-risk youth with a substance-related disorder. Family connectedness (OR: .56, CI: .32, .99, p<.05), neighborhood cohesion (OR: .50, CI: .30, .83, p<.008), and service

utilization (OR: .31, CI: .20, .48, p<.001), however, significantly reduced the odds of being resilient from violent victimization within the past 12-months. Supplementary analyses were also conducted for the low-risk subgroup of youth with a substance-related disorder to serve as a comparison to the high-risk findings. For the low-risk subgroup of youth diagnosed with a substance-related disorder, two protective factors were significantly associated with not being violently victimized within the past 12-months— family connectedness (OR: 1.29, CI: 1.07, 1.54, p<.008) and parental connectedness (OR: .48, CI: .30, .77, p<.003). Finally, compared to being White, Black (OR: .21, CI: .08, .54, p<.002) and Other race (OR: .15, CI: .07, .31, p<.001) were significantly associated with not being violently victimized within the past 12-months for low-risk youth diagnosed with a substance-related disorder.

Analyses of Pathways Substance-Related Diagnostic Group

Because it is necessary to identify a high- and low-risk group of Pathway adolescents diagnosed with a substance-related disorder, a total-risk factor index was created. As shown in Table 52, the largest gap between risk factors appears to occur between eight and nine risk factors amongst the substance-related diagnostic group. Thus, the high-risk group was operationalized as those who had nine or more risk factors, accounting for the top 35.26% of the sample.

Table 52

The Distribution of Risk Factors Among Pathways Youths with a Substance-Related Diagnosis

Number of Risk Factors	Percentage of Sample	Cumulative Percentage
0	0.24%	0.24%
1	0.72%	0.96%
2	2.88%	3.84%
3	4.32%	8.15%
4	4.32%	12.47%
5	11.27%	23.74%
6	12.95%	36.69%
7	13.19%	49.88%
8	14.87%	64.75%
9	13.19%	77.94%
10	11.75%	89.69%
11	5.76%	95.44%
12	2.88%	98.32%
13	1.20%	99.52%
14	0.48%	100%

As shown in Table 53, 191 participants were high-risk and diagnosed with a substance-related disorder in the Pathways sample. Approximately 37% of the high-risk sample was resilient from violent victimization. The average age of the high-risk sample was 16 and the majority were male (87.96%). A little under half of the sample indicated they were Hispanic (45.55%), with 25% of the sample indicated they were White, and 24% indicated Black. As shown in Table 54, 396 participants were low-risk and had a substance-related disorder. About half of the low-risk group who had a substance-related diagnosis were not violently victimized. The average age of the low-risk group was 16 and the majority of the sample were male (85%). Approximately 32% of the sample was Hispanic, 21% of the sample was White, and 40% of the sample were Black.

Table 53

Pathways High-Risk Youths with a Substance-Related Diagnosis Descriptive Statistics (n = 191)

	Mean or %[1]	SD or N	Min-Max
Resiliency from Victimization	37.37%	71	0-1
Individual-Level Protective Factors			
Religiosity	-.02	.80	-1.52-1.61
Identity	3.07	.49	1.50-4.00
Self-Reliance	3.02	.49	1.00-4.00
Intelligence	87.21	12.65	55.00-118.00
Emotional Regulation	2.61	.60	1.00-4.00
Future Outlook	2.18	.49	1.00-3.50
Protective Factors Related to Social Support			
Peer Support	3.34	.47	2.07-4.08
Domains of Non-Family Support	2.03	2.55	0-8.00
Domains of Family Support	6.06	1.96	0-8.00
Depth of Social Support	2.09	1.00	0-5.00
Parental Knowledge	2.31	.77	.72-4.07
Parental Monitoring	2.56	.88	.26-4.64
Protective Factors Related to Institutions & Neighborhoods			
Commitment to School	3.14	.81	.93-5.12
Bonding to Teachers	3.09	.79	.95-5.16
Grades	4.08	1.93	1.00-8.00
Community Connectedness	2.44	.48	1.25-3.63
Community Involvement	.27	.62	0-3.00
Protective Factors Related to having a Mental Illness			
Service Utilization	39.27%	75	0-1
Control Variables			
Age	16.10	1.05	14-18
White	25.65%	49	0-1
Hispanic	45.55%	87	0-1
Black	24.08%	46	0-1
Male	87.96%	168	0-1
SES	52.49	12.11	22.00-77.00
Site (1=Philadelphia)	35.60%	68	0-1

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Table 54

Pathways Low-Risk Youths with a Substance-Related Diagnosis Descriptive Statistics (n = 396)

	Mean or %[1]	SD or N	Min-Max
Lack of Victimization	51.27%	203	0-1
Individual-Level Protective Factors			
Religiosity	-.03	.80	-1.52-1.61
Identity	3.07	.49	1.50-4.00
Self-Reliance	3.14	.52	1.00-4.00
Intelligence	85.75	12.84	55.00-118.29
Emotional Regulation	2.75	.63	1.11-4.00
Future Outlook	2.33	.56	.98-4.00
Protective Factors Related to Social Support			
Peer Support	3.37	.45	1.30-4.06
Domains of Non-Family Support	1.88	2.50	0-8.00
Domains of Family Support	5.98	2.09	0-8.00
Depth of Social Support	2.06	1.03	0-5.00
Parental Knowledge	2.54	.79	.59-4.23
Parental Monitoring	2.59	.87	.38-4.65
Protective Factors Related to Institutions & Neighborhoods			
Commitment to School	3.47	.75	.99-5.32
Bonding to Teachers	3.31	.83	.88-5.39
Grades	4.04	2.02	1.00-8.00
Community Connectedness	2.47	.52	1.00-4.00
Community Involvement	.19	.48	0-3.00
Protective Factors Related to having a Mental Illness			
Service Utilization	27.37%	108	0-1
Control Variables			
Age	16.30	1.09	14-19
White	21.46%	85	0-1
Hispanic	32.32%	128	0-1
Black	39.90%	158	0-1
Other	6.31%	25	0-1
Male	85.35%	338	0-1
SES	50.50	12.26	16.34-77.00
Site (1=Philadelphia)	47.98%	190	0-1

Note. [1]= Mean or Percentage, Standard Deviation or Number, Range reported from pooled imputation model utilizing chained iterations approach in Stata.

Two logistic regression models were employed to examine if and how protective factors differ based on risk for youth diagnosed with a substance-related disorder.[29] As shown in Table 55, one protective factor related to individual-level attributes and three protective factors related to social support were significantly associated with resiliency from violent victimization among the high-risk subgroup. Specifically, for every one-point increase in the future outlook scale, the

[29] During multiple imputations for the substance-related diagnostic group in Pathways, the variable, parental connectedness, was removed due to collinearity issues that led to a lack of convergence of the imputation models.

odds of being resilient from violent victimization significantly doubled (OR: 2.23). Further, the odds of being resilient from violent victimization significantly decreased as the number of domains a non-family adult (OR: .82) or number of domains a family member (OR: .79) was mentioned increased. Alternatively, as the depth of one's social support increased, the odds of being resilient from violent victimization significantly increased (OR: 1.60). One protective factor was significantly associated with resiliency from violent victimization — the odds of being resilient from violent victimization decreased among high-risk female participants (OR: .31) compared to male participants.

Table 55

Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among Pathway to Desistance High-Risk Youths with a Substance-Related Diagnosis (n = 191)

	b	se	OR	CI
Individual-Level Protective Factors[1]				
Religiosity	-.03	.24	.97	.60-1.55
Self-Reliance	-.13	.37	.88	.43-1.80
Intelligence	.03	.01	1.03	1.00-1.06
Emotional Regulation	.51	.31	1.67	.91-3.06
Future Outlook	.80*	.41	2.23	1.00-4.98
Protective Factors Related to Social Support[2]				
Peer Support	.21	.43	1.23	.53-2.86
Domains of Non-Family Support	-.19*	.09	.82	.69-.98
Domains of Family Support	-.24*	.12	.79	.62-1.00
Depth of Social Support	.47*	.22	1.60	1.05-2.45
Parental Knowledge	.02	.24	1.02	.63-1.63
Parental Monitoring	-.09	.25	.91	.56-1.48
Protective Factors Related to Institutions & Neighborhoods				
Commitment to School	-.16	.56	.85	.50-1.46
Bonding to Teachers	-.46	.26	.63	.37-1.06
Grades	-.19	.10	.82	.67-1.00
Community Connectedness	.28	.40	1.33	.60-2.94
Community Involvement	.16	.29	1.17	.66-2.08
Protective Factors Related to having a Mental Illness				
Service Utilization	.14	.37	1.15	.55-2.38
Control Variables[3]				
Age	.09	.18	1.10	.76-1.58
White[4]	-.16	.56	.85	.28-2.53
Hispanic[4]	.41	.49	1.50	.58-3.92
Male	-1.15*	.56	.31	.10-.95
SES	.01	.01	1.01	.98-1.04
Site (1=Philadelphia)	.14	.44	1.15	.48-2.74

Note. [1]= The variable, identity, was removed from the analyses due to sign switching and high correlation with the variable, self-reliance.
[2]= The variable, parental connectedness was removed from the analyses due to lack of convergence in the imputation phase.
[3]= The variable, other, was removed from the analyses due to low number of people in subgroup (n=9).
[4]= Black is the referent group.
*p < .05

For the low-risk participants who were diagnosed with a substance-related disorder, none of the protective factors were significantly associated with not being violently victimized (see Table 56). In fact, only one control variable was significantly associated with a lack of violent

victimization experiences. Specifically, as age increases, the odds of not being violently victimized significantly increased (OR: 1.38).

Table 56

Multivariate Logistic Regression Predicting a Lack of Violent Victimization among Pathway to Desistance Low-Risk Youths with a Substance-Related Diagnosis (n = 396)

	b	se	OR	CI
Individual-Level Protective Factors[1]				
Religiosity	.13	.15	1.14	.84-1.53
Self-Reliance	.07	.22	1.07	.69-1.66
Intelligence	-.01	.01	.99	.97-1.01
Emotional Regulation	.03	.19	1.03	.72-1.49
Future Outlook	-.28	.22	.76	.49-1.17
Protective Factors Related to Social Support[2]				
Peer Support	-.15	.28	.86	.50-1.48
Domains of Non-Family Support	-.07	.05	.93	.83-1.03
Domains of Family Support	-.04	.07	.96	.84-1.10
Depth of Social Support	.16	.13	1.18	.91-1.52
Parental Knowledge	.06	.16	1.06	.78-1.45
Parental Monitoring	.16	.16	1.18	.86-1.60
Protective Factors Related to Institutions & Neighborhoods				
Commitment to School	.19	.20	1.21	.82-1.79
Bonding to Teachers	-.14	.16	.87	.63-1.21
Grades	.02	.06	1.02	.90-1.15
Community Connectedness	-.34	.25	.71	.43-1.16
Community Involvement	-.20	.22	.81	.52-1.26
Protective Factors Related to having a Mental Illness				
Service Utilization	.07	.26	1.07	.64-1.80
Control Variables				
Age	.32**	.11	1.38	1.11-1.72
White[2]	.15	.37	1.16	.56-2.40
Hispanic[2]	-.15	.33	.86	.45-1.62
Other[1]	.08	.51	1.09	.40-2.94
Male	-.24	.33	.79	.41-1.50
SES	.01	.01	1.01	.99-1.03
Site (1=Philadelphia)	.51	.32	1.66	.88-3.13

Note. [1]= The variable, identity, was removed from the analyses due to sign switching and high correlation with the variable, self-reliance.
[2]= Black is the referent group
**p < .01

Research Question Five- Do protective factors differ based on the context of the population under study (i.e., institutional versus community)?

To answer the fifth research question, a summary table of the results from analyses to examine research question one was created to examine differences on protective factors based on the context of the population. Although not many differences existed between the community and institutional sample, there were some differences in significant protective factors for each domain of protective factors (e.g., individual-level, social support, institutions, and having a mental illness). Specifically, certain protective factors related to self-efficacy, parental social support, adult social support, commitment to school, bonding to teachers, and service utilization were significantly related to resiliency from violent victimization for one sample, but not the other as detailed below.

As shown in Table 57, there are some differences across the two different populations (i.e., community (NCS-A) and institutional (Pathways)). For example, although most individual-level protective factors were not significant for both types of samples, one individual-level protective factor was significantly associated with not being violently victimized— self-efficacy. More specifically, within the low-risk community sample, self-efficacy was negatively associated with a lack of victimization experiences.

Some protective factors related to social support were significantly related to resiliency from violent victimization for both institutional and community samples. For example, parental connectedness was positively related to resiliency from violent victimization for both the high- and low-risk groups of the community sample. For the institutional sample, however, parental connectedness was not a significant protective factor. Further, parental monitoring was negatively associated with a lack of violent victimization for the low-risk community sample. Within the institutional sample, parental monitoring was not significantly related. Alternatively, within the institutional sample, adult support was negatively related to resiliency from violent

victimization in the high-risk subgroup. Notably, adult support was not significant in the community sample. Finally, depth of social support, although not included in the community sample analyses, was positively associated with resiliency from violent victimization for the high-risk institutional sample.

One protective factor related to institutions and neighborhoods was significantly associated with resiliency from violent victimization within the community and institutional sample. For the high-risk community sample, commitment to school was positively related to resiliency from violent victimization. Within the institutional sample, however, commitment to school was not a significant protective factor. Rather, within the high-risk institutional sample, bonding to teachers was negatively related to resiliency from violent victimization. Notably, bonding to teachers was not included in the community sample analyses.

Finally, a protective factor related to having a mental illness was significantly associated with resiliency from violent victimization for the community sample. Specifically, utilizing a mental health service was negatively associated with resiliency from violent victimization within the high- and low-risk community samples. For the institutional sample, however, service utilization was not a significant protective factor.

Table 57

Analysis of Context of Population and Different Types of Protective Factors that Influence Resiliency from Violent Victimization Amongst Adolescents with Mental Illness

	Community Sample		Institutional Sample	
	NCS-A High-Risk	NCS-A Low-Risk	Pathways High-Risk	Pathways Low-Risk
Individual-Level Protective Factors				
Positive Affect	NS	NS	—	—
Perception of Self	NS	NS	—	—
Global Self-Esteem	NS	NS	—	—
Religiosity	NS	NS	NS	NS
Self-Efficacy	NS	(-) $p < .05$	—	—
Intelligence	NS	NS	NS	NS
Self-Reliance	—	—	NS	NS
Emotional Regulation	—	—	NS	NS
Future Outlook	—	—	NS	NS
Protective Factors Related to Social Support				
Peer Support	NS	NS	NS	NS
Adult Support	NS	NS	(-) $p < .05$	NS
Family Connectedness	NS	NS	NS	NS
Parental Connectedness	(+) $p < .001$	(+) $p < .05$	NS	NS
Parental Monitoring	NS	(-) $p < .05$	NS	NS
Parental Knowledge	—	—	NS	NS
Depth of Social Support	—	—	(+) $p < .05$	NS
Protective Factors Related to Institutions & Neighborhoods				
Grades	NS	NS	NS	NS
Commitment to School	(+) $p < .001$	NS	NS	NS
Bonding to Teachers	—	—	(-) $p < .05$	NS
Neighborhood Cohesion	NS	NS	NS	NS
Community Involvement	—	—	NS	NS
Protective Factors Related to having a Mental Illness				
Service Utilization	(-) $p < .001$	(-) $p < .001$	NS	NS

Note. NS= Not Significant
— = Not Included

Research Question Six- Which resiliency model is the most useful in explaining associations between risk and protective factors that are related to victimization amongst people with mental disorders?

To answer the sixth research question, four resiliency models were explored within the NCS-A and Pathways samples. Specifically, the compensatory, protective, challenge, and protective-protective resilience models were explored in both samples.

NCS-A Analysis of Compensatory Resilience Model

As mentioned previously, to empirically test the compensatory resilience model, direct effects of both risk and protective factors were included in the multivariate logistic regression model examining the full sample. As shown in Table 58, several theoretically-derived risk factors, one risk factor established by prior research, and one risk factor related to having a mental illness were significantly associated with resiliency from violent victimization. Specifically, for people with a mental illness who engaged in crime perpetration (OR: 71), consumed alcohol (OR: .68), or were homeless (OR: .25), the odds of being resilient from violent victimization significantly decreased compared to those who did not engage in criminal activities, did not consume alcohol, and were not homeless. Further, for every one-point increase in the number of delinquent peers one associates with, the odds of being resilient from violent victimization significantly decreased by 13% (OR. .87). Similarly, as the number of stressful life events one experiences increased, the odds of being resilient from violent victimization significantly decreased (OR: .47). One risk factor established by prior research was significantly associated with violent victimization— for every one-point increase in the anger scale, there is a 19% decrease in the odds of being resilient from violent victimization (OR: .81). Finally, amongst people with mental illness who were hospitalized, the odds of being resilient from violent victimization significantly decreased (OR: .51) compared to people who were not hospitalized.

Several protective factors were significantly associated with resiliency from violent victimization as well. More specifically, one individual-level protective factor was significantly associated with resiliency from violent victimization, although in the unexpected direction. That is, for every one-point increase in the self-efficacy scale, the odds of being resilient from violent victimization significantly decreased by 40% (OR: .60). Two protective factors related to social support, parental connectedness and monitoring, were also significantly associated with resiliency from violent victimization. Specifically, for every-one point increase in the parental connectedness scale, the odds of being resilient from violent victimization significantly increased by 38% (OR: 1.38). For every one-point increase in the parental monitoring scale, however, there is an 18% decrease in the odds of being resilient from violent victimization (OR: .82). Finally, one protective factor related to having a mental illness was significantly associated with resiliency from violent victimization — amongst people who used a mental health service, the odds of being resilient significantly decreased (OR: .41) compared to people who did not use a mental health service.

Several control variables related to diagnostic category and race were significantly associated with resiliency from violent victimization. In fact, the odds of being resilient from violent victimization significantly decreased for people with a bipolar (OR: .62), depression (OR: .65), impulse-control (OR: .70), childhood (OR: .71), or anxiety-related (OR: .68) disorders compared to people who were not diagnosed with one of those disorders. Further, for people who reported they were Hispanic, the odds of being resilient from violent victimization significantly decreased (OR: .54) compared to people who reported they were White.

Table 58

Compensatory Resilience Model Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A Youths with a Mental Illness (n = 4,376)

	b	se	OR	CI
Theoretically-Derived Risk Factors				
Crime Perpetration	-.34**	.12	.71	.54-.93
Drug Use	.02	.15	1.01	.75-1.36
Alcohol Use	-.38*	.14	.68	.51-.92
Homelessness	-1.38***	.28	.25	.14-.44
Delinquent Peers	-.14**	.05	.87	.79-.96
Conflicted Relationships	-.02	.04	.98	.90-1.06
Stressful Life Events	-1.52**	.47	.22	.08-.58
Risk Factors Established by Prior Scholarship				
Correctional Facility	-.02	.19	.98	.67-1.44
Impulsivity	-.05	.12	.95	.79-.96
Sensation Seeking	.06	.08	1.06	.91-1.25
Anger	-.20*	.10	.81	.66-.99
Employment	-.12	.14	.88	.67-1.17
Risk Factors Specific to People with Mental Illness				
Hospitalization	-.67***	.18	.51	.36-.73
Medication Non-Compliance	.00	.22	1.00	.64-1.58
Poor Occupational Functioning	-.21	.29	.81	.45-1.46
Individual-Level Protective Factors				
Positive Affect	.02	.12	1.02	.80-1.31
Perception of Self	-.03	.03	.96	.90-1.04
Global Self-Esteem	.08	.09	1.08	.90-1.30
Religiosity	-.12	.09	.88	.74-1.06
Self-Efficacy	-.51***	.11	.60	.47-.76
Intelligence	-.00	.00	1.00	.99-1.00
Protective Factors Related to Social Support				
Peer Support	.07	.07	1.07	.93-1.23
Adult Support	-.05	.08	.95	.80-1.12
Family Connectedness	.08	.12	1.09	.85-1.39
Parental Connectedness	.32**	.10	1.38	1.13-1.70
Parental Monitoring	-.20*	.08	.82	.69-.97
Protective Factors Related to Institutions & Neighborhoods				
Grades	.07	.09	1.08	.90-1.28
Commitment to School	.18	.12	1.20	.94-1.53
Neighborhood Cohesion	.03	.08	1.03	.87-1.22
Protective Factors Related to having a Mental Illness				
Service Utilization	-.89***	.11	.41	.33-.51
Control Variables				
Anxiety-Related Disorders	-.38**	.12	.68	.53-.88
Bipolar Spectrum Disorders	-.48**	.14	.62	.46-.83
Depression Spectrum Disorders	-.43**	.16	.65	.47-.90
Substance-Related Disorders	-.12	.17	.88	.62-1.25
Impulse-Control Disorder	-.35**	.12	.70	.55-.90
Childhood-Related Disorders	-.34**	.12	.71	.56-.91
Age	-.04	.04	.96	.89-1.03
Black[1]	-.24	.19	.78	.54-1.15

Hispanic[1]	-.62***	.16	.54	.39-.75
Other[1]	-.51	.26	.60	.35-1.03
Male	.12	.12	1.13	.88-1.44
Poverty Category 1 (Income < 1.5) [2]	-.06	.16	.94	.68-1.29
Poverty Category 2 (Income ≤ 3) [2]	.00	.18	1.00	.70-1.43
Poverty Category 3 (Income ≤ 6) [2]	-.09	.12	.91	.72-1.16

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

Supplementary analyses examining the compensatory resiliency model with the dependent variable, resilient from violent victimization within the past 12-months, was also examined. As noted above, risk, protective, and control variables were included in the model examining resiliency from violent victimization within the past 12-months for the full NCS-A sample. As shown in Appendix C, two protective factors were significantly associated with resiliency from violent victimization within the past 12-months in the NCS-A compensatory model. Specifically, parental monitoring (OR: .84, CI: .71, .99, p<.03) and service utilization (OR: .62, CI: .45, .86, p<.006) significantly reduced the odds in being resilient from violent victimization.

Pathways Analysis of Compensatory Resilience Model

To analyze the compensatory model within Pathways, direct effects of both risk and protective factors on resiliency from violent victimization amongst the full sample were examined. As show in Table 59, one theoretically-derived risk factor, two risk factors established by prior scholarship, and one risk factor specific to having a mental illness were significantly associated with resiliency from violent victimization. Similar to the NCS-A analysis of the compensatory resilience model, having increased number of delinquent peers significantly decreased the odds of being resilient from violent victimization (OR: .75). Further, for every one-point increase in the neighborhood disadvantage scale, the odds of being resilient from violent victimization significantly decreased (OR: .75). For youths with a mental illness who

were involved in a gang, the odds of being resilient from violent victimization significantly decreased (OR: .61) compared to people who were not in a gang. Finally, for every one-point decrease in the psychopathy scale, the odds of being resilient significantly increased (OR: 97).

Three protective factors related to social support were significantly associated with resiliency from violent victimization. Unexpectedly, the odds of being resilient from violent victimization decreased as the count of the number of domains in which at least one non-family adult member (OR: .90) or at least one family adult member (OR: .88) were mentioned increased. Further, the odds of being resilient from violent victimization significantly increased as the depth of one's social support increased (OR: 1.26).

Table 59

Compensatory Resilience Model Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among Pathways Youths with a Mental Illness (n = 647)

	b	se	OR	CI
Theoretically-Derived Risk Factors				
Crime Perpetration	-.03	.19	.97	.66-1.41
Binge Drinking	-.22	.21	.80	.53-1.20
Drug Use	-.22	.22	.80	.52-1.23
Unstructured Activities	.01	.14	1.01	.77-1.32
Delinquent Peers	-.29*	.13	.75	.57-.97
Global Severity Index	.15	.21	1.16	.76-1.77
Delusional Beliefs	-.17	.26	.85	.50-1.42
Risk Factors Established by Prior Scholarship[1]				
Correctional Facility	-.25	.18	.78	.54-1.12
Impulsivity	-.07	.13	.93	.72-1.21
Aggression	-.00	.12	1.00	.79-1.26
Employment	-.03	.20	.97	.65-1.44
Neighborhood Disadvantage	-.28*	.13	.75	.58-.98
Gang Membership	-.49*	.22	.61	.40-.94
Risk Factors Specific to People with Mental Illness[2]				
Psychopathy	-.03*	.01	.97	.94-1.00
Individual-Level Protective Factors[3]				
Religiosity	.10	.12	1.11	.87-1.42
Self-Reliance	-.08	.19	.92	.63-1.35
Intelligence	.00	.01	1.00	.98-1.02
Emotional Regulation	.12	.15	1.13	.83-1.53
Future Outlook	-.17	.19	.84	.58-1.22
Protective Factors Related to Social Support				
Peer Support	.06	.22	1.06	.69-1.63
Domains of Non-Family Support	-.10*	.04	.90	.83-.99
Domains of Family Support	-.13*	.06	.88	.79-.98
Depth of Social Support	.23*	.11	1.26	1.02-1.56
Parental Connectedness	.04	.15	1.04	.77-1.40
Parental Knowledge	-.02	.13	.98	.77-1.26
Parental Monitoring	.03	.13	1.03	.79-1.35
Protective Factors Related to Institutions & Neighborhoods				
Commitment to School	-.08	.15	.92	.68-1.24
Bonding to Teachers	-.20	.13	.82	.64-1.05
Grades	-.00	.05	.99	.90-1.10
Community Connectedness	-.13	.21	.87	.58-1.31
Community Involvement	-.00	.16	1.00	.72-1.37
Protective Factors Related to having a Mental Illness				
Service Utilization	.01	.20	1.01	.67-1.50
Control Variables				
Mood-Related Disorder	-.34	.25	.71	.44-1.16
Substance-Related Disorder	-.23	.38	.80	.38-1.68
Age	.17	.09	1.19	.99-1.42
White[4]	-.26	.31	.77	.42-1.40
Hispanic[4]	-.04	.27	.96	.56-1.64
Other[4]	-.15	.44	.86	.36-2.04

Male	-.45	.27	.64	.37-1.09
SES	.01	.01	1.01	.99-1.02
Site (1=Philadelphia)	.17	.27	1.19	.69-2.04

Note. [1]= The variable, gun carrying, was removed during imputations due to low number of endorsement
[2]= The variable, hospitalization, was removed during imputations due to low number of endorsement
[3]= The variable, identity, was removed from the analyses due to sign switching and high correlation with the variable, self-reliance.
[4]= Black is the referent group
*p < .05

NCS-A Analyses of the Protective Resilience Model

The protective resilience model examines if protective factors moderate or reduce the effects of risk on an outcome. As mentioned previously, the protective resilience model is empirically tested through the use of an interaction term. Specifically, the total risk scale and total protection scale were included as an interaction term, which is consistent with prior scholarship (Christiansen & Evans, 2005). The total risk X total protection interaction term was included in multivariate logistic regression models for the full sample predicting resiliency from victimization, consistent with prior researchers who have tested this model (Bockting et al., 2013; Crosnoe & Elder, 2004; Farrell & White, 1998; Scheier et al., 1999; Wills et al., 2003).

As shown in Table 60, the total risk X total protection interaction term was not significantly associated with resiliency from violent victimization for the NCS-A sample of people with mental illness, indicating a lack of support for the protective resilience model for the NCS-A sample. Supplementary analyses examining the protective resilience model using the past 12-months resiliency measure were also conducted. As shown in Appendix C, the total risk X total protection interaction term was not significantly associated with resiliency from violent victimization within the past 12-months.

Table 60

Protective Resilience Model Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A Youths with a Mental Illness (n = 4, 376)

	b	se	OR	CI
Total Risk Scale	-.29***	.07	.75	.65-.87
Total Protection Scale	-.04	.05	.96	.86-1.07
Total Risk * Total Protection	.00	.01	1.00	.98-1.02
Control Variables				
Anxiety Spectrum Disorders	-.45***	.13	.64	.49-.83
Bipolar Spectrum Disorders	-.55***	.12	.57	.45-.73
Depression Spectrum Disorders	-.56***	.15	.57	.42-.77
Substance-Related Disorders	-.21	.16	.80	.58-1.12
Impulse-Control Disorder	-.38***	.12	.68	.54-.87
Childhood-Related Disorders	-.45***	.10	.64	.52-.78
Age	-.08*	.04	.92	.86-1.00
Black[1]	-.27	.17	.76	.54-1.08
Hispanic[1]	-.66***	.17	.52	.36-.73
Other[1]	-.49	.30	.61	.33-1.13
Male	.14	.11	1.15	.93-1.43
Poverty Category 1 (Income < 1.5)[2]	-.10	.17	.90	.64-1.27
Poverty Category 2 (Income ≤ 3)[2]	-.05	.18	.95	.66-1.37
Poverty Category 3 (Income ≤ 6)[2]	-.11	.11	.89	.71-1.12

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

Pathways Analyses of the Protective Resilience Model

The analysis of the protective resilience model using the Pathways data was conducted in several steps mirroring the steps used in the NCS-A sample. As shown in Table 61, the total risk X total protection interaction term was not significantly associated with resiliency from violent victimization for the Pathways sample of people with mental disorders. Thus, there appears to be a lack of support for the protective resilience model for the Pathways sample.

Table 61

Protective Resilience Model Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among Pathways Youths with a Mental Illness (n = 647)

	b	se	OR	CI
Total Risk Scale	-.21	.13	.81	.62-1.05
Total Protection Scale	-.04	.10	.95	.78-1.17
Total Risk * Total Protect	.00	.01	1.00	.98-1.03
Control Variables				
Mood-Related Disorders	-.25	.21	.78	.51-1.18
Substance-Related Disorders	-.34	.34	.71	.36-1.39
Age	.14	.08	1.15	.98-1.33
White[1]	-.14	.26	.87	.52-1.45
Hispanic[1]	-.12	.26	.89	.54-1.47
Other[1]	.08	.41	1.08	.48-2.44
Male	-.47*	.24	.62	.39-1.00
SES	.01	.01	1.00	.99-1.02
Site (1= Philadelphia)	.14	.22	1.16	.75-1.77

Note. [1]=Black is the referent group

*p < .05

NCS-A Analyses of the Challenge Resilience Model

To empirically test the challenge resilience model, a quadratic term of total risk (i.e., total risk X total risk) was entered into the multivariate logistic regression equation with the linear term (total risk) and control variables predicting resiliency from victimization for the full sample. As shown in Table 62, the quadratic term of risk was not significantly associated with resiliency from violent victimization among NCS-A youth with a mental illness. Additionally, supplementary analyses using the past 12-months resiliency measure were conducted to examine the challenge model. As shown in Appendix C, the quadratic term of risk was not significantly associated with resiliency from violent victimization within the past 12-months. Given this finding, there appears to be a lack of support for the challenge resilience model for the NCS-A sample.

Table 62

Challenge Resilience Model Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A Youths with a Mental Illness (n = 4,376)

	b	se	OR	CI
Total Risk	-.31***	.09	.73	.61-.88
Total Risk Squared	.00	.01	1.00	.99-1.02
Control Variables				
Anxiety Spectrum Disorders	-.44**	.13	.64	.49-.84
Bipolar Spectrum Disorders	-.56***	.12	.57	.45-.73
Depression Spectrum Disorders	-.56***	.15	.57	.42-.77
Substance-Related Disorders	-.22	.16	.80	.58-1.12
Impulse-Control Disorder	-.37**	.12	.69	.55-.88
Childhood-Related Disorders	-.45***	.10	.63	.52-.78
Age	-.07	.04	.93	.86-1.00
Black[1]	-.28	.17	.75	.53-1.06
Hispanic[1]	-.64***	.17	.52	.37-.74
Other[1]	-.46	.30	.63	.34-1.16
Male	.15	.10	1.16	.94-1.44
Poverty Category 1 (Income < 1.5)[2]	-.10	.17	.90	.64-1.27
Poverty Category 2 (Income ≤ 3)[2]	-.04	.18	.96	.67-1.39
Poverty Category 3 (Income ≤ 6)[2]	-.11	.12	.90	.71-1.13

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

Pathways Analyses of the Challenge Resilience Model

To empirically test the challenge resilience model within the Pathways sample, a quadratic term of total risk (i.e., total risk X total risk) was entered into the multivariate logistic regression equation with the linear term (total risk) and control variables predicting resiliency from victimization amongst the full sample As shown in Table 63, the quadratic term of risk was not significantly associated with resiliency from violent victimization for the Pathways sample of people with a mental illness. Therefore, there appears to be a lack of support for the challenge resilience model for the Pathways sample as well.

Table 63

Challenge Resilience Model Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among Pathways Youths with a Mental Illness (n = 647)

	b	se	OR	CI
Total Risk	-.34*	.15	.71	.53-.96
Total Risk Squared	.01	.01	1.01	.99-1.03
Control Variables				
Mood-Related Disorders	-.26	.21	.77	.51-1.17
Substance-Related Disorders	-.34	.35	.71	.36-1.41
Age	.14	.07	1.15	.99-1.34
White[1]	-.13	.26	.87	.53-1.46
Hispanic[1]	-.10	.25	.90	.55-1.48
Other[1]	.12	.41	1.13	.51-2.51
Male	-.43	.24	.65	.41-1.04
SES	.01	.01	1.01	.99-1.02
Site (1= Philadelphia)	.15	.22	1.16	.76-1.78

Note. [1]=Black is the referent group
*p < .05

NCS-A Analyses of the Protective-Protective Resilience Model

The protective-protective model examines the effect of cumulative protective factors on an outcome. As mentioned prior, to empirically examine this type of resiliency model, the total protective scale was used. The total protective scale was created in the unimputed dataset following advice from prior researchers (e.g., Graham, 2009; von Hippel, 2009). Because prior scholars have empirically tested the protective-protective resilience model through splitting the groups into high- and low-risk subgroups (e.g., Daigle et al., 2010), the same total risk distribution utilized in research question one was used. Briefly, the high-risk group was operationalized as people who had six or more risk factors (see Table 1).

The total protective scale was entered into two multivariate logistic models for both high and low-risk groups predicting resiliency from victimization. As shown in Table 64, the total protection scale was not significantly associated with resiliency from violent victimization for the high-risk group subsample of youths with a mental illness. As a comparison to the high-risk group, findings form the low-risk group of people with mental illness examining the effect of the

total protective scale on not being violently victimized are also presented in Table 65. Similarly, for the low-risk group of people with a mental illness, total protection scale was not significantly associated with a lack of violent victimization experiences (see Table 65), providing little support for the protective-protective resilience model for the NCS-A sample. Supplementary analyses using the past 12-month resiliency measure examining the protective-protective resilience model were also conducted. Notably, the total protection scale was not significantly associated with resiliency from violent victimization within the past 12-months for the high- or low-risk subgroups in the supplementary analyses (see Appendix C).

Table 64

Protective-Protective Resilience Model Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among NCS-A High-Risk Youths with a Mental Illness (n = 1,597)

	b	se	OR	CI
Total Protection Scale	-.05	.03	.95	.89-1.01
Control Variables				
Anxiety Spectrum Disorders	-.46*	.21	.63	.41-.97
Bipolar Spectrum Disorders	-.46*	.19	.63	.43-.92
Depression Spectrum Disorders	-.49**	.18	.61	.42-.89
Substance-Related Disorders	-.37	.19	.69	.47-1.01
Impulse-Control Disorder	-.63***	.16	.53	.38-.74
Childhood-Related Disorders	-.55***	.15	.57	.42-.78
Age	.03	.04	1.03	.94-1.13
Black[2]	.06	.30	1.06	.58-1.95
Hispanic[2]	-.46	.27	.63	.37-1.08
Other[2]	-.38	.19	.68	.46-1.01
Male	.08	.17	1.09	.77-1.54
Poverty Category 1 (Income < 1.5) [2]	-.23	.29	.79	.44-1.44
Poverty Category 2 (Income ≤ 3) [2]	-.14	.24	.87	.53-1.43
Poverty Category 3 (Income ≤ 6) [2]	.07	.18	1.07	.74-1.55

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

Table 65

Protective-Protective Resilience Model Multivariate Logistic Regression Predicting a Lack of Violent Victimization among NCS-A Low-Risk Youths with a Mental Illness (n = 2,779)

	b	se	OR	CI
Total Protection Scale	-.01	.02	.98	.93-1.04
Control Variables				
Anxiety Spectrum Disorders	-.40**	.12	.67	.52-.86
Bipolar Spectrum Disorders	-.87***	.19	.42	.28-.61
Depression Spectrum Disorders	-.77***	.18	.46	.32-.66
Substance-Related Disorders	-.66**	.20	.51	.34-.77
Impulse-Control Disorder	-.36*	.16	.70	.51-.96
Childhood-Related Disorders	-.52***	.12	.59	.46-.76
Age	-.16	.04	.85	.78-.93
Black[2]	-.50*	.21	.61	.39-.93
Hispanic[2]	-.76***	.18	.47	.33-.67
Other[2]	-.47	.43	.62	.26-1.47
Male	.11	.12	1.12	.87-1.45
Poverty Category 1 (Income < 1.5) [2]	-.09	.19	.91	.62-1.35
Poverty Category 2 (Income ≤ 3) [2]	.05	.19	1.05	.72-1.55
Poverty Category 3 (Income ≤ 6) [2]	-.22	.17	.80	.56-1.14

Note. [1]= White is the referent group
[2]=Greater than 6 times the poverty line is the referent group
*p < .05, ** p < .01, *** p <.001

Pathways Analyses of the Protective-Protective Resilience Model

Similar to the NCS-A analyses of the protective-protective resilience model, the sample was split into high- and low-risk subgroups. To split the Pathways sample into high- and low-risk groups, the same total risk distribution utilized in research question one was used. Briefly, the high-risk group was operationalized as people who had eight or more risk factors (see Table 6).

The total protective scale was entered into a two multivariate logistic models for both high and low-risk groups predicting resiliency from victimization. As shown in Table 66, the total protection scale was not significantly associated with resiliency from violent victimization for the high-risk subsample of youth with a mental illness. Further, for the low-risk subsample of people with a mental illness, the cumulative protection variable (i.e., total protection scale) was not significantly associated with a lack of violent victimization experiences (see Table 67),

providing little empirical support for the protective-protective resilience model within the Pathways sample.

Table 66

Protective-Protective Resilience Model Multivariate Logistic Regression Predicting Resiliency from Violent Victimization among Pathways High-Risk Youths with a Mental Illness (n = 290)

	b	se	OR	CI
Total Protection Scale	-.02	.06	.98	.88-1.10
Control Variables				
Mood-Related Disorders	-.51	.29	.60	.34-1.06
Substance-Related Disorders	-.34	.64	.71	.20-2.51
Age	.14	.12	1.15	.91-1.45
White[1]	-.25	.38	.78	.37-1.65
Hispanic[1]	-.25	.38	.78	.37-1.64
Other[1]	-.98	.67	.37	.10-1.39
Male	-.74*	.36	.48	.23-.97
SES	.01	.01	1.01	.99-1.04
Site (1= Philadelphia)	-.02	.31	.98	.53-1.80

Note. [1]=Black is the referent group
*p < .05

Table 67

Protective-Protective Resilience Model Multivariate Logistic Regression Predicting a Lack of Violent Victimization among Pathways Low-Risk Youths with a Mental Illness (n = 357)

	b	se	OR	CI
Total Protection Scale	-.01	.04	.99	.91-1.07
Control Variables[1]				
Mood-Related Disorders	-.08	.32	.93	.50-1.73
Substance-Related Disorders	-.37	.44	.69	.29-1.62
Age	.16	.10	1.18	.96-1.44
White[2]	-.25	.34	.78	.40-1.51
Hispanic[2]	-.32	.31	.73	.39-1.34
Male	-.37	.31	.69	.37-1.28
SES	-.00	.01	1.00	.98-1.02
Site (1= Philadelphia)	.17	.28	1.18	.68-2.05

Note. [1]=Other removed due to low number (n = 18)
[2]=Black is the referent group
*p < .05

Chapter 6:
Discussion

Researchers have established that people with mental disorders are at a higher risk to experience a victimization event, and several risk factors that elevate the risk of victimization have been identified. What has yet to be fully explored is why certain people with mental disorders who are at elevated risk to experience a victimization event are not victimized, which is a phenomenon known as resiliency. The current dissertation explored this phenomenon using two different datasets— one from a community sample and one from an institutional sample— and examines which protective factors are important in the resiliency process from violent victimization. It also explores if protective factors vary based on biological sex, diagnostic category, or context of the population; and which resiliency model is the most useful in explaining associations between risk and protective factors, contributing at least six main findings.

First, two different domains of protective factors were particularly influential in promoting resiliency from violent victimization for people with mental disorders— protective factors related to social support and protective factors related to neighborhoods and institutions. Specifically, within the NCS-A dataset, one type of social support was consistently significant in influencing resiliency from violent victimization— parental connectedness. Similar to research investigating the relationship between parental support and resiliency (Farrell & White, 1998; Fleming et al., 2002; Resnick et al., 1997), for high- and low-risk NCS-A youth with a mental illness a person's connection to their parent was particularly important. In fact, as parental connectedness increased, the odds of being resilient from violent victimization significantly increased. There are several reasons why parental social support may be especially important for youth with mental disorders. First, parental warmth and support have been shown to be

significant protective factors from adverse environments (Garmezy, 1991; Masten et al., 2000; Wallen & Rubin, 1997). Second, parental support has been shown to improve psychological functioning (Holahan et al., 1995), reduce depressive symptomology (Stice et al., 2004), and protect against maladjustment (Stadler et al., 2010) for adolescents. Further, parental connectedness may reflect capable guardianship that is able to prevent criminal offenses (Cohen & Felson, 1979). Taken together, perhaps parental social support enhances one's quality of life, which may reduce symptomology and prevent youth with a mental illness from engaging in situations that may be conducive to violent victimization resulting in resiliency from such situations.

Although there were few protective factors detected in the high-risk subsample of Pathways, a protective factor related to social support—depth of social support—was also important in influencing resiliency from violent victimization. Specifically, as the number of unique adults (including family and non-family adults) mentioned in three or more domains (e.g., domains include adults you admire and want to be like, adults you could talk to if you needed information or advice about something, etc.) increased, so did the odds of being resilient from violent victimization. As prior researchers have found, the quality of social support appears to be particularly important for people with mental illness (e.g., Pearlin, 1981; Pearlin et al., 1981), with quality social support perhaps reducing the number of conflicted relationships one may have (e.g., Silver, 2002), and may enhance the number of capable guardians (e.g., Cohen & Felson, 1979) ultimately reducing violent victimization. Quality social support can even influence resiliency from violent victimization, as highlighted by this finding.

Interestingly, other types of social support, such as peer or family support, were not significant protective factors related to resiliency from violent victimization for both the NCS-A

or Pathways samples. Although prior scholars have found support for peer (Bariola et al., 2015; Bockting et al., 2013; Budge et al., 2013; Crosnoe & Elder, 2004; Fredriksen-Goldsen et al., 2013; Mizock & Lewis, 2008; Nemoto et al., 2011; Scourfield et al., 2008; Singh et al., 2011; Singh & McKleroy, 2011; Singh et al., 2014) and family support (Cosden, 2001; Farrell & White, 1998; Fleming et al., 2002; Griffin et al., 1999; Hart et al., 2007; Kumpfer, 2002; Kumpfer & Bluth, 2004; Lauritsen et al., 1992; Margalit, 2004; Morrison & Cosden, 1997; Resnick et al., 1997) in the resiliency and negative outcomes literature, these relationships did not provide protection against victimization for people with mental illness. Rather, parental support and relationships to adults one may admire or feel close to, influence resiliency from violent victimization. It is possible that for people with mental illness parental and adult support may provide quality and stable support, as opposed to other types of support like peer support. Given that a person with a mental disorder may experience unpredictable and stressful life events (Link et al., 2015; Silver & Teasdale, 2005; Steadman & Ribner, 1982; Teplin et al., 2005), a source of stable support may be especially important for this population as highlighted by these findings. It is important to note, however, that the current measures of peer and family social support do not capture potential deviant behaviors of people in these support systems. Because of this, it is uncertain if these measures are capturing quality social support of pro-social peer or family members or deviant ones. As such, this could be another reason why peer and family social support were not significant predictors of resiliency from violent victimization.

In addition to protective factors related to social support influencing resiliency from violent victimization, one protective factor related to institutions, specifically the school, was particularly influential in promoting resiliency from violent victimization for people with mental disorders. In fact, commitment to school significantly increased the odds of being resilient from

violent victimization for NCS-A high-risk youth with a mental illness, aligning with prior resiliency and victimization research for the general population (Daigle et al., 2010; Lauritsen et al., 1992). There are several reasons why commitment to school may be an especially important protective factor for people with mental illness. First, it is possible that commitment to school may serve as a measure of informal social control (as suggested by Daigle et al., 2010) that insulates youth with a mental illness from engaging in activities that are conducive to violent victimization. In other words, perhaps commitment to school reduces youths' desire and willingness to engage and interact with delinquent peers and criminal contexts. Further, schools often play a significant role in enhancing student's mental health (see Rones & Hoagwood, 2000 for review). In fact, a number of interventions have been implemented across the United States to increase overall well-being and mental health of students (see Das et al., 2016 for review; Shoshani & Steinmetz, 2014). It is possible, then, that the school is another institution that can target known risk factors for victimization for people with mental illness, such as symptomology, which would ultimately reduce the likelihood of a victimization event from occurring. Many school-based mental health interventions include targeting and training students on certain resources (i.e., protective factors) such as interpersonal skills (Das et al., 2016). For example, in a school-based intervention aimed at enhancing mental health of seventh- to ninth-grade students, Shoshani and Steinmetz (2014) found significant decreases in symptoms related to depression and anxiety among 537 students compared to the students in the demographically similar control school. Further, the school-based intervention strengthened protective factors such as self-esteem, self-efficacy, and optimism (Shoshani & Steinmetz, 2014). It is possible, then, that the school may also target and enhance other domains of protective factors that can influence resiliency from violent victimization for youth with a mental illness. In other words, if

the school is providing training on bolstering individual-level protective factors, or protective factors related to social support, this would in turn provide increased protection from violent victimization, ultimately promoting resiliency from violent victimization for people with mental illness.

There were several counterintuitive findings within both the NCS-A and Pathways samples. For example, within the NCS-A low-risk subsample, higher scores on the self-efficacy or parental monitoring scales significantly decreased the odds of experiencing a lack of violent victimization. It is possible that these findings are due to the cross-sectional nature of the NCS-A data. That is, it is possible that youth may rebel against increased parental monitoring, which may result in the youth engaging in risky behaviors such as sneaking out of the house that could result in a victimization experience. Scholars have found some evidence supporting this claim. For example, Sasson and Mesch (2014) found that among youth with restrictive parental supervision, such supervision practices actually significantly increased risky online behaviors. Alternatively, it is also possible that victimization leads to increased parental monitoring (see Stavrinides et al., 2015 for example). Similarly, as mentioned prior, self-efficacy refers to a personal judgment of one's ability to attain goals, one's ability to execute actions, and one's aptitude to organize psychological functioning (Bandura, 1977). It is possible that the negative association between a lack of violent victimization and self-efficacy is a result of a time order issue. It is plausible that for youth who have experienced a victimization event, a reduction in self-efficacy may occur. Alternatively, it could also be possible that youths with a mental illness may overestimate their abilities to exert control over their own motivation, behavior, or social environment, which may then put them in risky situations conducive to victimization (e.g., Cohen & Felson, 1979). For example, although hypothetical, it is possible that a youth with a

mental disorder may overestimate their ability to execute actions such as navigating risky situations like engaging with deviant peers or using drugs or alcohol, which may ultimately result in a victimization event. There is research to support this hypothetical scenario. For example, scholars have found that within the general population there is disconnect between a person's perception of their own skills and ability and objective performance ratings, with people tending to overestimate their abilities (Dunning et al., 2004). Within the mental health literature, some researchers have found a significant relationship between poor insight into one's mental illness and lower scores of executive functioning (Aleman et al., 2006; Cooke et al., 2005). As such, it is possible that the relationship between a lack of violent victimization and self-efficacy may be due to a third variable, insight into one's mental illness, a possibility that future research should investigate.

Finally, within both the NCS-A high- and low-risk subsamples, service utilization was negatively associated with resiliency from violent victimization. It is likely that youth with a mental illness would involve themselves in services such as self-help groups, hotlines, or psychological counseling after experiencing a victimization event, resulting in a negative association between resiliency from violent victimization and service utilization. Alternatively, it is also possible that a person with a mental illness, who uses services such as psychological counseling, may be experiencing heightened symptomology or psychological distress. This distress or symptomology, in turn, may result in an increased risk to experience violent victimization (Brekke et al., 2001; Chapple et al., 2004; Daquin & Daigle, 2017; Goodman et al., 1997; Hiday et al., 2002; Johnson et al., 2016; Maniglio, 2009; Silver et al., 2011; Teasdale, 2009; Teasdale et al., 2014; Walsh et al., 2003) resulting in a negative association between service utilization and resiliency from violent victimization. Further, increased symptomology

may contribute to target suitability (e.g., Cohen & Felson, 1979) in that a person with a mental illness may not comply with interaction rituals (e.g., Felson, 1992). A lack of compliance with interaction rituals could result in conflicted relationships (e.g., Silver, 2002) or aggravating others in which victimization experiences are likely to occur (e.g., Felson, 1992).

Within the Pathways sample, there were two counterintuitive findings. Specifically, the count of number of domains in which a non-family adult member was mentioned and bonding to one's teachers were negatively associated with resiliency from violent victimization for Pathways high-risk youth with a mental illness. As noted above, depth of social support was a significant protective factor in influencing resiliency from violent victimization. The difference between the two measures is the count of domains in which an adult is mentioned. In other words, for the depth of social support measure, a unique adult had to be mentioned in three or more domains whereas the domains of non-family social support was a count of the number of domains with at least one non-family member mentioned. Given that one measure (depth of social support) was significant in influencing resiliency from violent victimization and one measure (domain of non-family support) was negatively related to resiliency from violent victimization, this suggests that there is a difference in protection based on the quantity of social support versus the quality and depth of social support. As highlighted by these findings, for youth with a mental disorder, who are at high-risk, deep and meaningful relationships with an adult appear to influence resiliency from violent victimization while higher counts of non-family members actually is associated with decreased odds of being resilient from violent victimization. It is possible that as the number of non-family adult members increase, so does the chance of encountering an adult member who may introduce youth to risky behaviors that may result in victimization experiences. In other words, it appears that depth of social support, rather than

presence of social support, are especially important for people with mental disorders. Notably, scholars have highlighted the importance of quality social support for people with mental illness (Pearlin, 1989; Pearlin et al., 1981), and theoretical perspectives have emphasized the importance of capable guardianship in preventing victimization events (e.g., Cohen & Felson, 1979).

Another counterintuitive finding found in the Pathways high-risk subsample relates to the measure, bonding to one's teachers. As a reminder, the measure assesses participants' responses to statements such as "most teachers treat me fairly". Given that quality of social support appears to be particularly important in influencing resiliency from violent victimization as illuminated by the findings discussed above, it is possible that a participant may view their teachers as just and fair, but may not actually be emotionally close to such teachers to serve as a capable guardian in preventing victimization experiences. Alternatively, it is also possible that the bonding to teachers measure is detecting some third variable that is causing a negative relationship between resiliency from violent victimization and bonding to one's teachers. For example, it is possible that a high-risk youth may bond to one's teachers as a result of being excluded from peer groups, or as a result of being bullied or victimized by peers, resulting in a negative relationship between resiliency from violent victimization and bonding to one's teachers.

Second, there are some group differences based on biological sex in protective factors that are related to resiliency from violent victimization. For instance, for the high-risk subgroups of NCS-A males and females, there were similarities on significant protective factors related to resiliency from violent victimization. For both high-risk males and females, parental connectedness and commitment to school significantly increased the odds of being resilient from violent victimization further illuminating the importance of these two protective factors in promoting resiliency from violent victimization. The only statistical difference in the coefficients

on factors that promote resiliency from violent victimization between high-risk males and females was for one protective factor— service utilization. More specifically, among high-risk females, engaging in mental health services significantly reduced the odds of being resilient from violent victimization. This relationship, however, was not significant for high-risk males. As prior research has found, there are gender differences in help seeking behaviors and service utilization. Specifically, scholars have established that females utilize mental health services at a higher rate than males (Smith et al., 2013) and that females engage in more help seeking behaviors such as engaging in mental health treatment (see Magaard et al., 2017 for review). In line with these findings, it is possible that females are engaging in these types of services more than men due to the willingness to utilize psychological services and the utility of such services. In other words, it is possible that the use of services as it relates to violent victimization may be utilized at a higher degree and, in turn, perhaps more helpful for females as opposed to males. It is also possible that females are engaging in psychological services more than men because of higher rates of symptomology. For example, scholars have found that females exhibit more symptoms of mental illness such as depression than males starting in early adolescence and lasting through most of adulthood (Hankin & Abramson, 1999; Kuehner, 2003). As a result, it is possible that the negative relationship between service utilization and resiliency from violent victimization for high-risk females is a result of manifestations of mental illness, such as symptomology, a significant risk factor for violent victimization.

There are also group differences on significant protective factors related to a lack of violent victimization experiences based on biological sex for low-risk males and females subgroups within the NCS-A. For instance, among low-risk females within the NCS-A sample, parental monitoring significantly decreased the odds of experiencing a lack of violent

victimization, but was not a significant protective factor for low-risk males, mirroring Christiansen and Evans (2005) results examining resiliency and victimization. Further, the significant interaction term for parental monitoring's influence and sex indicates that its effect is stronger for males on a lack of violent victimization. It is possible, and argued by socialization theorists (e.g., Maccoby & Martin, 1983), that males are exposed to different, and perhaps more lenient, parenting practices than females. Because of these socialization practices and parenting differences, it is plausible that females are monitored by their parents at higher rates than males. Based on this, females may rebel against strict parental monitoring practices by engaging in risky behaviors, such as sneaking out, that are conducive to victimization experiences. Alternatively, it is also possible that if a female experienced a victimization event, this would result in further increased parental monitoring, falling in line with reasoning that females need more supervision than males. Further, unlike the high-risk subsample, among the low-risk NCS-A subsample, service utilization was significantly associated with a lack of violent victimization events for both males and females. In other words, for both males and females, there was a negative association between service utilization and a lack of violent victimization. This finding suggests that service utilization operates in the same manner for both low-risk males and females. As speculated above, it is possible that this finding is a result of the cross-sectional nature of the data. In other words, for youth who are victimized, they may engage in services. Alternatively, service utilization may serve as a proxy measure for symptomology, a significant risk factor for victimization.

Third, protective factors differed based on diagnostic category for people with mental disorders. In fact, there are some similarities and differences on protective factors that influence resiliency from violent victimization for the high-risk diagnostic subgroups. For example, several

individual-level protective factors were significant for certain diagnostic categories. Religiosity was negatively associated with resiliency from violent victimization for high-risk people who were diagnosed with an anxiety-related or depression-related disorder. This finding is interesting given that there are ambiguous findings regarding the relationship between mental health and religiosity (Hackney & Sanders, 2003). Although intuitively it would make sense that higher degrees of religiosity would result in resiliency from violent victimization, there are some explanations for why the opposite was found. In fact, for people who are religious, there is the potential for personal strain or conflict (Exline et al., 2000). For example, religion can illuminate one's attention on their own sinfulness (Faiver et al., 2000), resulting in internal guilt or conflict. Given that depression and anxiety share similar characteristics in symptomology, it is possible that for those who place importance in religiosity, this may result in internal guilt or conflict regarding expectations related to religion, which could further exacerbate symptoms such as heightened anxiety or depression. In fact, Exline and colleagues (2000) found that depression was significantly associated with religious strains such as feeling alienated from God, and such religious strains were associated with increased depressive symptomology and suicidal thoughts. As such, higher degrees of symptomology, in turn, would place a person at heightened risk for a victimization experience. Alternatively, it is also possible that a victimization event could result in a person seeking explanations or solace through religion. Thus, longitudinal data is needed to parse out the relationship between religiosity, resiliency from violent victimization, and diagnostic categories such as anxiety and depression.

Two other individual-level protective factors were significantly associated for one high-risk diagnostic category in particular. Specifically, for high-risk people who have a bipolar-related disorder, individual-level protective factors such as perception of self and global self-

esteem were significantly associated with resiliency from violent victimization, albeit in opposite directions. Interestingly, perception of self is negatively related to resiliency from violent victimization, while global self-esteem is positively related to resiliency from violent victimization. Although unexpected, there are some explanations for why perception of self was negatively associated with resiliency from violent victimization. As previously discussed, the perception of self scale measures the participants ranking of their abilities related to sports/fitness, intelligence, and attractiveness. It is possible that people with a bipolar-related disorder are not accurate when rating their general abilities. Previous research supports this point in that research has shown people with a bipolar-related disorder had diminished accuracy in self-appraisals (Torres et al., 2016). Because of this diminished accuracy in assessing one's abilities, it is possible that people with a bipolar-related disorder may overestimate their perception of self and ability to navigate risky situations in which a victimization event may occur. Alternatively, for people who are at high-risk and have a bipolar-related disorder, global self-esteem was positively, significantly associated with resiliency from violent victimization. Scholars have also found that negative self-esteem is one of the most robust predictors of both, manic and depressive episodes, for people with bipolar disorder (Scott & Pope, 2003). It is possible that higher levels of self-esteem are especially important in promoting resiliency from violent victimization for people with bipolar-related disorders, as higher levels of self-esteem may lead to lower levels of negative symptomology such as manic or depressive episodes, a significant risk factor for victimization.

Finally, among high-risk youth with a substance-related disorder within the Pathways sample, for those who have higher degrees of future consideration and planning (i.e., future outlook), the odds of being resilient from violent victimization significantly increased. Previous

research demonstrates that higher levels of future orientation can result in decreased substance usage at future time points (Barnett et al., 2013; Brooks et al., 2018), thus supporting this finding. Less substance usage over time, in turn, may lead to a lack of association with delinquent peers or risky situations that are conducive to victimization experiences. As such, resiliency from violent victimization would result for high-risk youth with a substance-related disorder. It should be noted that there was not a measure available that assessed future outlook within the NCS-A sample. Thus, future research should explore this association in other populations, such as a community sample.

Several protective factors related to social support were significantly associated with resiliency from violent victimization and certain diagnostic categories for high-risk youth. For instance, for both high-risk youth with an anxiety-related or depression-related disorder, the odds of being resilient significantly increased as peer support increased. Peer support was not a significant protective factor among other diagnostic groups, or people with mental illness generally (as studied in research question 1), suggesting that there is something unique about anxiety and depression-related diagnostic categories in the relationship between peer support and resiliency and violent victimization.

There are several possibilities as to why peer support is particularly important for high-risk youth with an anxiety or depression-related disorder. First, scholars have documented the positive impact of peer support for people with depression and anxiety-related disorders. For example, Ueno (2005) found that adolescents with dense peer networks had slightly fewer depressive symptoms. Likewise, Irons and Gilbert (2005) found a reduction in anxiety and depression-related symptomology as secure attachment to peers increased. Therefore, perhaps for

people with depression or anxiety-related disorders, peer support may result in a reduction in symptomology, which may ultimately influence resiliency from violent victimization.

It is also possible that peer support provides a sense of external support and stability for high-risk youth with a depression or anxiety-related disorder. Research has found, people with depression often have distorted cognitive processes in which they may attribute bad outcomes to internal, stable, and global factors and good outcomes to external, specific, and unstable factors (Seligman et al., 1979). Further, scholars have documented distorted cognitive processes for people with anxiety-related disorders (Kendall, 1985; Muris & Field, 2008). As such, it is possible that peer support provides a sense of external comfort and psychological well-being that counteracts this tendency (as prior scholars have found e.g., Kawachi & Berkman, 2001*;* Taylor & Brown, 1988; Turner, 1981), which ultimately influences resilience from violent victimization.

There were differences across diagnostic categories on another type of social support—adult social support. Specifically, for NCS-A high-risk youth with an anxiety-related disorder and for Pathways high-risk youth with a substance-related disorder, adult social support, which assesses any adult social support, was negatively associated with resiliency from violent victimization. As already mentioned, rather than adult social support providing protection from violent victimization, it is possible that adult social support may actually encourage or introduce youth to risky behaviors that may result in a victimization experience. For example, perhaps for high-risk youth with a substance-related disorder, non-family adult members are providing substances to the youth. As a result, such substances may lead that person with a substance-related disorder to engage in risky environments that are conducive to victimization.

Interestingly, parental connectedness, another type of social support, significantly increased the odds of being resilient from violent victimization for almost all of the high-risk diagnostic categories (except for childhood- or bipolar-related diagnoses). As discussed above, there are several reasons parental support may be especially important for youths with a mental illness including providing capable guardianship, reducing symptomology, and promoting overall well-being. What is interesting is that parental connectedness was not a significant protective factor for childhood- or bipolar-related diagnoses, a finding that should be further explored.

Finally, parental monitoring, on the other hand, was negatively associated with resiliency from violent victimization for high-risk youth with a substance-related disorder. As discussed above, increased parental monitoring may cause youth to engage in risky behaviors such as sneaking out, increased substance usage, etc., which ultimately may result in a violent victimization event. Alternatively, it is also possible that this finding is due to the cross-sectional nature of the NCS-A data in which youth with a substance-related disorder that experienced a violent victimization event may result in increased parental monitoring.

In addition to differences found among diagnostic categories and protective factors related to social support, there were also differences on protective factors that relate to neighborhoods and institutions. More specifically, commitment to school was a significant protective factor that increased the odds of being resilient from violent victimization for youth diagnosed with an anxiety, bipolar, depression, or impulse-control related disorder. As discussed above, it is possible that commitment to school may serve as a measure of informal social control, which may prevent adolescents from engaging in risky environments conducive to victimization. Further, it is possible that commitment to school can increase overall well-being

and mental health, which may ultimately influence resiliency from violent victimization. What is interesting is that for youth diagnosed with a substance-related or childhood-related disorder, commitment to school is not a significant protective factor, a finding that should be further explored.

Finally, a protective factor related to having a mental illness, service utilization, was negatively associated with resiliency from violent victimization for all diagnostic categories within the NCS-A (i.e., Pathways service utilization was not significant). It is possible that this finding is a result of the cross-sectional nature of the NCS-A data. In other words, for people who have been recently victimized, it is possible they would then engage in services such as psychological counseling. Alternatively, it is also possible that for youth who engage in mental health services, such youth may have higher symptomology, which may result in a victimization experience. .[30]

Fourth, there were some differences and similarities on protective factors that influenced resiliency from violent victimization based on the context of the population (i.e., community versus institutional). For example, for the community sample, protective factors such as parental connectedness and commitment to school increased the odds of being resilient from violent victimization, while service utilization decreased the odds of being resilient from violent victimization for the high-risk subgroups. For the institutional sample, however, protective factors such as depth of social support increased the odds of being resilient from violent victimization, while adult social support and bonding to teachers decreased the odds of being resilient from violent victimization for the high-risk subgroups. In addition to these differences, protective factors related to social support more generally significantly increased the odds of

[30] There were also there are some similarities and differences on protective factors that were significantly related to a lack of violent victimization experiences for the low-risk diagnostic subgroups.

being resilient from violent victimization, while individual-level protective factors did not appear to influence resiliency across both the community and institutional sample. These differences and similarities based on the context of the population are important to explore, as they suggest that protective factors related to resiliency from violent victimization are not necessarily generalizable to all people with mental disorders. Rather, some protective factors differ depending on the context of the population. These differences and similarities based on the context of the population have important implications for prevention. Rather than using a one-size fits all approach to enhancing protective factors related to resiliency from violent victimization for all people with mental disorders, prevention and intervention efforts can (and should) be tailored to the population. For example, because there were some similarities in protective factors related to social support across both types of populations, intervention efforts can target such protective factors more generally for people with mental illness. Additionally, interventions can target other domains of protective factors that have been shown to differ based on the context of the population. By effectively targeting protective factors that have been shown to influence resiliency from violent victimization for certain contexts (i.e., community, institutional, etc.), a reduction in violent victimization is likely to occur.

Fifth, in examining which resiliency model is the most useful in explaining associations between risk and protective factors that are related to resiliency from violent victimization, there is support for one type of resiliency model within both samples— the compensatory resiliency model. As stated previously, the compensatory model examines direct effects of risk and protective factors on resiliency from violent victimization. Protective factors such as parental connectedness (i.e., NCS-A sample) and depth of social support (i.e., Pathways sample) significantly increased the odds of being resilient from violent victimization, despite significant

risk factors related to victimization being present. Findings for this type of resiliency model has important implications regarding clinical practice and crime prevention. As stated previously, it is important to understand the mechanisms that protect people from risk and produce resiliency (Rutter, 1987). Findings from this dissertation suggest that protective factors have a direct impact on risk factors when influencing resiliency from violent victimization. This finding is important because clinicians can target protective factors that have been shown to have a direct effect on producing resiliency from violent victimization, such as parental connectedness, commitment to school, or increasing the depth of one's social support network.

Surprisingly, there was a lack of support for other resiliency models including the protective, challenge, and protective-protective resiliency models. These findings suggest that protective factors do not moderate the risk factors associated with violent victimization (i.e., protective resilience model). Further, a moderate exposure of risk does not appear to be efficacious for people with mental disorders (i.e., challenge resilience model). Finally, there is a lack of support for cumulative protective factors (i.e., protective-protective resilience model). Some of the lack of support for certain resilience models aligns with prior resiliency and victimization literature. For example, Christiansen and Evans (2005) found a lack of support for the protective resilience model as it relates to influencing resiliency from victimization. Alternatively, the lack of support for the challenge and protective-protective resilience models contradicts what prior resilience and victimization scholars have found. For instance, Christiansen and Evans (2005) found support for the challenge resilience model and Daigle and colleagues (2010) found support for the protective-protective resilience model, suggesting that resiliency process for people with mental illness may differ compared to the general population.

Although speculative, the lack of support for three of the resiliency measures could be

due to measurement issues. For example, the lack of support for the protective-protective resilience model could be a result of splitting the sample into high- and low-subgroups. In other words, it is possible that people with mental illness are unique and may already be at high-risk, especially people with mental illness who have been adjudicated from a crime. If so, then perhaps not splitting the sample based on risk is warranted. Thus, traditional resiliency models that are designed for the general population may need to be modified for special populations that are already at a greater risk for victimization, a possibility that future research should explore. Importantly, however, the lack of support for other resilience models can further inform crime prevention efforts. For example, rather than targeting and trying to bolster a large host of protective factors (i.e., cumulative protection) for people with mental disorders in crime prevention efforts, it may be more effective to target certain protective factors such as depth of social support, parental connectedness, or commitment to school.

Sixth, there were some consistent findings in the NCS-A supplementary analyses using the 12-month resiliency from violent victimization measure. Similar to the lifetime resiliency models, within the 12-month resiliency models, protective factors such as parental connectedness and commitment to school were significant protective factors that influenced resiliency from violent victimization for high-risk youth. Further, service utilization was negatively associated with resiliency in the 12-month estimates for NCS-A high-risk youth. There were also some consistent differences across analyses using the 12-month resiliency from violent victimization measure. For instance, across models, self-esteem was a significant protective factor that increased the odds of being resilient from violent victimization within the past 12-months. It is notable that prior research has established the importance of self-esteem in influencing resiliency from negative outcomes within the general population (Byrne & Mazanov, 2001; Resnick et al.,

1997) and special populations (Cosden, 2001; Morrison & Cosden, 1997). Further, although a small effect, higher scores on the IQ scale resulted in a reduction in resiliency from violent victimization within the past 12-months across models. Prior research examining resiliency from victimization, however, has found that IQ was a positive, significant protective factor for low-risk youth (Daigle et al., 2010). It is possible that IQ interacts with other variables, such as cognitive impulsivity, which prior researchers have found to be linked to crime. For youth with higher IQ, cognitive impulsivity was associated with greater involvement in crime (Loeber et al., 2012). Thus, these people may be more at risk for engaging in risky behaviors (such as crime) that may be conducive to victimization. Although the supplementary analyses are a more conservative estimate of protective factors that may influence resiliency, there are still limitations due to the cross-sectional nature of the data. Because there are differences in the supplementary findings from the lifetime estimate, such differences highlight the need for longitudinal research that focuses on the change within individuals over time. Indeed, longitudinal research is needed to not only establish temporal order, but would also be especially helpful to follow changes over time within participants regarding protective factors. For example, through the use of longitudinal analyses researchers could answer questions such as: how does self-esteem change over time, and, in turn, influence resiliency from violent victimization? Is service utilization for people with mental illness a protective factor, or a proxy for heightened symptomology? Future research would benefit from prospective longitudinal data collection to answer such questions and explore the nuances of protective factors that may influence resiliency from violent victimization for people with mental illness.

It should also be noted that there were consistent findings across samples and constructs, which speaks to the merits of such findings. Most notably, there were consistent findings related

to social support influencing resiliency from violent victimization across both samples (i.e., NCS-A and Pathways) and connection to school influencing resiliency in the NCS-A. More specifically, parental support significantly increased the odds of being resilient from violent victimization across analyses including the supplementary analyses, and depth of social support influenced resiliency within the Pathways sample. Given the consistent findings of parental support and connection to school across analyses including the supplementary analyses within the NCS-A, and consistent findings of depth of social support across analyses within Pathways, such consistent findings across analyses and samples increases confidence that these are indeed meaningful and real, and should be targeted for intervention efforts.

Collectively, the findings of this dissertation have implications regarding prevention, future mental health and resiliency research, and theoretical implications. Given that many protective factors related to resiliency from violent victimization for people with mental illness are malleable, these factors can be targeted in crime prevention efforts. For example, across analyses within the NCS-A sample, protective factors such as parental connectedness or commitment to school were consistently important protective factors that influenced resiliency for people with mental illness. Such protective factors can be amended through prevention efforts. Promising examples include interventions that target connection to one's parents such as attachment-based interventions like the "Connect" intervention (see Moretti et al., 2015), which help parents identify and regulate the emotional needs and reactions of their adolescents. Also, attachment-based family therapy program (i.e., ABFT; Diamond et al., 2003), which is tailored specifically to the needs of adolescents with mental disorders and targets relational reframing and building of alliances with the adolescent and the parent may be useful. Further, because there were some group differences based on biological sex and diagnostic category, crime prevention

efforts could be tailored specific to the ones' biological sex or diagnostic category, as suggested by the responsivity principle for effective intervention (Andrews, Bonta, & Hoge, 1990). In doing so, prevention efforts may be more effective in reducing violent victimization, as group differences on protective factors can be targeted for change.

Additionally, as noted previously, few studies have examined resiliency from violent victimization for people with mental disorders (except Langeveld et al., 2015). Given that findings from this dissertation suggest that there are protective factors that can influence resiliency from violent victimization such as protective factors related to social support and protective factors related to institutions, it would be useful to examine if these protective factors also matter across other samples of people with mental disorders. Further, it is important to note that unlike the general population and certain special populations, protective factors related to individual-level attributes did not influence resiliency from violent victimization. The lack of findings related to individual-level attributes and certain resiliency models suggests that people with mental illness are unique, and further research is needed to explore the nuances related to resiliency from violent victimization for people with mental illness. Because the resiliency process appears to operate differently for people with mental illness, and there are unique protective factors that appear to influence resiliency for people with mental illness, future research should explore additional ways to conceptualize, measure, and empirically test resiliency for people with mental illness. As mentioned above, one such way may be to consider people with mental illness already at high-risk consequently resulting in running resiliency models across the full sample. Alternatively, other methodologies could be explored that diverge from traditional empirical tests of resiliency theory.

Finally, findings from this dissertation have theoretical implications. As shown above, social support, particularly parental support and depth of social support, were consistent protective factors that influenced resiliency from violent victimization for people with mental illness across analyses, aligning with theoretical perspectives. As discussed prior, scholars have highlighted the importance of quality social support for people with mental illness (Pearlin, 1989; Pearlin et al., 1981), and theoretical perspectives have emphasized the importance of capable guardianship in preventing victimization events (e.g., Cohen & Felson, 1979). It is possible that quality social support may be an indicator of enhanced capable guardianship (Cohen & Felson, 1979), and could reflect a reduction of the number of conflicted relationships (e.g., Silver, 2002) one may be involved in that could ultimately result in a victimization event. Findings across analyses also showed that connections to the school influenced resiliency from violent victimization for people with mental illness. Because the school may be an informal source of social control, it is possible that the school prevents youths with a mental illness from engaging in risky behaviors that would ultimately result in a victimization event, aligning with lifestyles/routine activities theory (Cohen & Felson, 1979; Hindelang et al., 1978). Finally, service utilization was consistently, negatively associated with resiliency from violent victimization. It is possible that the measure, service utilization, may be an indicator of increased symptomology as discussed above. Increased symptomology may heighten target attractiveness, which could then result in a victimization event, which aligns with expectations of routine activities theory (e.g., Cohen & Felson, 1979). It is also possible that increased symptomology may lead a person to engage in behaviors that lead others to engage in social control attempts. In other words, if a person is behaving in a bizarre way that violates social norm rituals, a

victimization event may occur to elicit social control over a person with mental illness (Felson, 1992). This explanation is aligned with the tenets of social interactionist theory.

Limitations

Despite the methodological rigor of the current dissertation, there are some limitations. One limitation is related to the measurement strategy of creating the total-risk and total-protection scales, a common measurement issue when examining resiliency theory (Luthar & Cushing, 1999). Although a similar research protocol was followed as other studies that examine resiliency theory (Cicchetti et al., 1993; Luthar, 1991; Luthar et al., 1993; Neighbors et a al., 1993; Stouthamer et al., 1993), each risk and protective factor were given equal weight to compute the total-risk and total-protection scales. As a result, it is possible that some protective or risk factors may have had a larger impact than others. It should be noted, however, that scholars have found that summated risk measures are more reliable than individual risk factors since multiple factors that are included in a scale account for more variance in outcomes (Luthar & Cushing, 1999). Further, each protective and risk factor were included that were hypothesized to be related to victimization for people with mental illness. Although following the direction of previous scholars in including all hypothesized risk and protective factors into the total risk and total protection scales, there were some protective factors that were negatively correlated with resiliency from violent victimization. As such, it is possible that if the factors that were negatively correlated with resiliency were removed from the scales that different results would have been produced. Future research should explore alternative methods in producing the total risk and total protection scales.

Another limitation relates to the cutpoints used to classify the high- and low-risk subgroups. As noted previously, scholars have categorized high-risk groups through a variety of

techniques such as utilizing the top 16% of the sample distribution on the total risk factor index (Cicchetti et al., 1993; Luthar, 1991) or using cutoffs based on quartiles or thirds of the distributions on the total risk factor index (Luthar et al., 1993; Neighbors et a al., 1993; Stouthamer et al., 1993). Following prior scholars (Daigle et al., 2010; Luthar et al., 1993; Turner et al., 2007), the high-risk group was selected based on where the largest gap existed between the number of risk factors. Because there are numerous ways to identify a high-risk subgroup, such cutpoints can influence results. Stated differently, it is possible that results may differ or change if a different cutoff strategy was used. Future research examining resiliency from violent victimization for people with mental disorders could explore alternative approaches to identify a high-risk subgroup such as latent class analysis.

Additionally, diagnostic categories within both the NCS-A and Pathways samples were not mutually exclusive. Although the focus of this dissertation was not on understanding comorbidity, rather the resiliency process for all people with mental illness, an interesting next step in resiliency research related to people with mental illness and resiliency from violent victimization would be examining how the resiliency process may differ based on diagnostic category. Relatedly, because diagnostic categories were not mutually exclusive within the NCS-A and Pathways samples, analyses could not be conducted to examine if predictors of resiliency differ across diagnostic categories. Although this would be an interesting analysis to explore, the amount of co-occurring disorders within both NCS-A and Pathways hindered the ability to do so. As such, future research should examine if and how protective factors may vary across diagnostic categories and for people with co-occurring disorders.

There are limitations specific to the datasets used. For example, the NCS-A data are cross-sectional in nature and a mixture of lifetime and past twelve-month estimates were used.

Additionally, some results changed in the supplementary analyses when restricting the dependent variable to the past 12-months. Even with this approach, temporal order could not be established, further highlighting the need for longitudinal research as it relates to resiliency from violent victimization for people with mental illness. Further, it is likely that some of the results that are negatively associated with resiliency from violent victimization (e.g., parental monitoring, self-efficacy, etc.) are a function of the cross-sectional nature of the data. It is also possible that the effect of service utilization may be a result of the cross-sectional nature of the data (e.g., experience a victimization event and then obtain mental health services), but it is also likely a proxy for heightened symptomology. As such, longitudinal research is needed to parse out these nuances related to the data. Fortunately, within the Pathways sample, temporal order could be established. A limitation of the Pathways sample, however, relates to the sample of people with mental illness. There were only 647 people with a mental illness who were primarily males and grouped into two different diagnostic categories— mood- and substance-related— resulting in an inability to perform certain group-based analyses. Additionally, because there were so few people with a mood-related disorder, multiple diagnostic categories were collapsed together. Because of this, differences related to diagnostic categories could not be explored within the Pathways sample. Further, a majority of the Pathways sample had a substance-related disorder, further highlighting the need for large samples with broad diagnostic information, which the NCS-A captures.

Finally, there are limitations related to the measures used in both the NCS-A and Pathways samples. For example, within both datasets, certain risk factors related to victimization among people with mental illness were not available. For instance, there were not any measures related to heightened symptomology of mental illness within the NCS-A dataset, a significant

risk factor for victimization. Within Pathways, there was not a measure that examined conflicted relationships, a significant risk factor for victimization among people with mental illness. Certain protective factors, such as depth of social support, were not included in the NCS-A data, which were significantly related to resiliency from violent victimization within the Pathways sample. Further, several measures used in both datasets could use improvement. For example, within both the Pathways and NCS-A data, parental measures were only related to the relationship with the participants' mother. Thus, it is unknown if and how relationships to one's father may influence resiliency from violent victimization.

Conclusion

Despite these limitations, this dissertation used two datasets to explore which protective factors were related to resiliency from violent victimization; if protective factors varied based on biological sex, diagnostic category, or the context of the population; and the applicability of certain resiliency models in examining resiliency from violent victimization. In doing so, protective factors related to resiliency from violent victimization for people with mental illness were identified; group differences related to biological sex, diagnostic category, and the context of the population were identified; and the utility of certain resiliency models was explained. More specifically, results illustrate the importance of protective factors related to social support and institutions such as the school for people with mental illness. Further, results show the utility of one resiliency model, the compensatory resiliency model, in examining resiliency from violent victimization for people with mental illness. This investigation into resiliency from violent victimization for people with mental illness suggests the need for continued research on resiliency for people with mental illness, as protective factors may be more malleable to target in

intervention efforts, ultimately leading to a reduction in violent victimization for people with mental disorders.

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Appendix A:

Scales used in the NCS-A

Substance Usage Scale	
1) In the past 12 months, did you have at least one drink?	0=no, 1=yes
2) In the past 12 months, did you use marijuana at any time?	0=no, 1=yes
3) In the past 12 months, did you use cocaine at any time?	0=no, 1=yes
4) In the past 12 months, did you use prescription drugs without a doctor's recommendation at any time?	0=no, 1=yes
Delinquent Peers Scale	
1) Do your friends smoke cigarettes?	0=no, 1=yes
2) Do your friends use marijuana	0=no, 1=yes
3) Do your friends ever carry a knife, gun, or weapon?	0=no, 1=yes
4) Do your friends ever get into physical fights?	0=no, 1=yes
5) Do your friends ever steal things?	0=no, 1=yes
6) Were your friends ever arrested?	0=no, 1=yes
Conflicted Relationships Scale	
In the past 12 months, did you have any serious ongoing disagreements or problems getting along with…	
1) spouse or partner?	0=no, 1=yes
2) brother or sister?	0=no, 1=yes
3) parents or other close relatives?	0=no, 1=yes
4) friends?	0=no, 1=yes
5) supervisor or teacher at work or school?	0=no, 1=yes
6) anyone else at work or school?	0=no, 1=yes
7) any neighbors?	0=no, 1=yes
Stressful Life Events Scale	
In the past 12 months, did you have any of the following stressful experiences:	
1) break-up of a romantic relationship you were having?	0=no, 1=yes
2) break-up of any other close friendship?	0=no, 1=yes
3) your parents getting separated or divorced?	0=no, 1=yes
4) the death of a close friend or family member?	0=no, 1=yes
5) the serious illness or injury of a close friend or family member?	0=no, 1=yes

6) any other terrible thing happening to a close friend or family member?	0=no, 1=yes
7) a life-threatening accident or injury?	0=no, 1=yes
8) a serious financial crisis?	0=no, 1=yes
9) problems with the police?	0=no, 1=yes
10) did you have to make a court appearance?	0=no, 1=yes
11) having a big disappointment where something good you were expecting didn't happen?	0=no, 1=yes
Impulsivity Scale	
1) I am an impulsive person who often acts before thinking	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
2) I enjoy getting into new situations where you can't tell how things will turn out	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
3) I often do things without thinking when I get emotional	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
4) I have a hard time controlling myself once I get emotionally worked up	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
5) I sometimes want to do things so much that I can't stop myself no matter how hard I try	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
6) I have a very hard time resisting temptations	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
Sensation Seeking Scale	
1) I enjoy getting into new situations where you can't tell how things will turn out	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
2) I prefer friends who are exciting and unpredictable	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
3) I like wild parties	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
4) I would like the kind of life where I can travel a lot, with lots of change and excitement	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
5) I like doing things for the thrill of it	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
6) I sometimes like to do things that are a little frightening	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
Anger Scale	
1) I am often a little rude to people I do not like	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
2) When I get mad, I say ugly things	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
3) I have a very strong temper	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
4) If people annoy me, I let them know	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
5) When people shout at me, I shout back	0=not at all true, 1= not very true, 2=somewhat true, 3=very true

6) When I am angry with people, I let them know	0=not at all true, 1= not very true, 2=somewhat true, 3=very true
Positive Affect Scale	
In the past 30 days, how often did you feel…	
1) confident?	0-none, 1-a little bit of the time, 2-some of the time, 3-most of the time, 4-all the time
2) optimistic?	0-none, 1-a little bit of the time, 2-some of the time, 3-most of the time, 4-all the time
3) happy?	0-none, 1-a little bit of the time, 2-some of the time, 3-most of the time, 4-all the time
4) full of life?	0-none, 1-a little bit of the time, 2-some of the time, 3-most of the time, 4-all the time
Perception of Self Scale	
On a scale from 0-10, what number would you give yourself on…	
1) your ability at sports	0-10
2) physical attractiveness of your face?	0-10
3) physical attractiveness of your body?	0-10
4) your intelligence?	0-10
5) your physical fitness?	0-10
Global Assessment of Self-Esteem Scale	
1) Overall, I am satisfied with myself (reverse coded)	0-very true, 1-somewhat true, 2-a little true, 3-not at all true
2) At times, I think I am no good at all	0-very true, 1-somewhat true, 2-a little true, 3-not at all true
3) I wish I could have more respect for myself	0-very true, 1-somewhat true, 2-a little true, 3-not at all true
4) All in all, I generally feel that I am a failure	0-very true, 1-somewhat true, 2-a little true, 3-not at all true
Religiosity	
1) How often do you attend religious services?	0-never, 1-less than once a month, 2-one to three times a month, 3-about once a week, 4-more than once a week
2) In general, how important are religious beliefs in your daily life?	0-not important, 1-not very important, 2-somewhat important, 3-very important
3) When you have problems or difficulties in your family, work, or personal life, how often do you seek comfort through religious or spiritual means?	0-never, 1-not very often, 2-sometimes, 3-often
4) When you have decisions to make in your daily life, how often do you think about what your spiritual or religious beliefs suggest you should do?	0-never, 1-not very often, 2-sometimes, 3-often
Self-Efficacy Scale	
How would you rate your ability to…	
1) stay calm and think of the right thing to do	0-poor, 1=fair, 2=good, 3=excellent

in a crisis?	
2) to concentrate and learn technical things like how to operate a computer or how to repair things?	0-poor, 1=fair, 2=good, 3=excellent
3) to get along with people when you want to?	0-poor, 1=fair, 2=good, 3=excellent
4) to stay out of trouble when you're in a situation where trouble could happen?	0-poor, 1=fair, 2=good, 3=excellent
5) to get people to do what you want them to do?	0-poor, 1=fair, 2=good, 3=excellent
6) to control your emotions when you need to stay in control?	0-poor, 1=fair, 2=good, 3=excellent
7) to keep your sense of humor in tense situations?	0-poor, 1=fair, 2=good, 3=excellent
8) to manage money?	0-poor, 1=fair, 2=good, 3=excellent
9) to stick to a job and finish it once its started?	0-poor, 1=fair, 2=good, 3=excellent
10) to manage your time and get things done when they are suppose to be done?	0-poor, 1=fair, 2=good, 3=excellent
11) on being responsible, such as showing up when you say you will, and remembering to do things you promise to do?	0-poor, 1=fair, 2=good, 3=excellent
Peer Support Scale	
1) How much can you rely on your friends for help if you have a serious problem?	0-not at all, 1-a little, 2-some, 3-a lot
2) How much can you open up to your friends if you need to talk about your worries?	0-not at all, 1-a little, 2-some, 3-a lot
3) When you have a problem or worry, how often do you let your friends know about it?	0-never, 1-not very often, 2-sometimes, 3=most of the time, 4-always
Family Connectedness Scale	
How often…	
1) did family members feel very close to each other?	0-never, 1-some of the time, 2-msot of the time, 3-all of the time
2) did the whole family do things together?	0-never, 1-some of the time, 2-msot of the time, 3-all of the time
3) did family members go along with what the family decided to do?	0-never, 1-some of the time, 2-msot of the time, 3-all of the time
4) did family members share interests and hobbies with each other?	0-never, 1-some of the time, 2-msot of the time, 3-all of the time
5) did family members find it easy to express their opinions to each other?	0-never, 1-some of the time, 2-msot of the time, 3-all of the time
6) did family members have input in major family decisions?	0-never, 1-some of the time, 2-msot of the time, 3-all of the time
7) did everyone compromise when there were disagreements?	0-never, 1-some of the time, 2-msot of the time, 3-all of the time
8) could family members talk to each other about their feelings?	0-never, 1-some of the time, 2-msot of the time, 3-all of the time
9) did family members let each other know	

when they were sad or worried?	
Parental Connectedness Scale	
1) How emotionally close were you with your mother while you were growing up?	0-not at all, 1-not very, 2-somewhat, 3-very
2) How much love and affection did she give you?	0-not at all, 1-not very, 2-somewhat, 3-very
3) How much did she really care about you?	0-not at all, 1-not very, 2-somewhat, 3-very
4) How much did she understand your problems and worries?	0-not at all, 1-not very, 2-somewhat, 3-very
5) How much could you open up and talk to her about things that were bothering you?	0-not at all, 1-not very, 2-somewhat, 3-very
Parental Monitoring Scale	
1) How much did your mother stop you from doing the things that other kids your age were allowed to do?	0-not at all, 1- a little, 2-some, 3-a lot
2) How strict is your mother with her rules for you?	0-not at all, 1- a little, 2-some, 3-a lot
3) How overprotective is your mother?	0-not at all, 1- a little, 2-some, 3-a lot
Commitment to School Scale	
1) Most of my teachers treat/treated me fairly	0-not at all true, 1-not very true, 2-somewhat true, 3-very true
2) I care/cared a lot about what my teachers think of me	0-not at all true, 1-not very true, 2-somewhat true, 3-very true
3) I like/liked school	0-not at all true, 1-not very true, 2-somewhat true, 3-very true
4) Getting good grades is/was important to me	0-not at all true, 1-not very true, 2-somewhat true, 3-very true
5) Homework is/was a waste of time (reverse coded)	0-not at all true, 1-not very true, 2-somewhat true, 3-very true
6) I like/liked my teachers	0-not at all true, 1-not very true, 2-somewhat true, 3-very true
7) I try/tried hard at school	0-not at all true, 1-not very true, 2-somewhat true, 3-very true
8) I feel/felt as if I don't/didn't belong at school (reverse coded)	0-not at all true, 1-not very true, 2-somewhat true, 3-very true
9) Most of the things I learned/learn in school are unimportant (reverse coded)	0-not at all true, 1-not very true, 2-somewhat true, 3-very true
Neighborhood Cohesion Scale	
1) How many people do you know by name in your neighborhood?	0-none, 1-a few, 2-some, 3-a lot
2) How often do you have a conversation or hang out with any of the people in your neighborhood?	0-never, 1-less than a month, 2-several times a month, 3-once a week, 4-several times a week
3) How happy are you living in your neighborhood?	0-not at all, 1-not very, 2-somewhat, 3-very

Appendix B:

Scales used in Pathways[31]

Crime Perpetration Scale	
In the past six months, have you…	
1) destroy/damage property?	0=no, 1=yes
2) set fire?	0=no, 1=yes
3) broke in to steal something?	0=no, 1=yes
4) shoplifted?	0=no, 1=yes
5) bought/received/sold stolen property?	0=no, 1=yes
6) used check/credit card illegally?	0=no, 1=yes
7) stole a car or motorcycle?	0=no, 1=yes
8) sold marijuana?	0=no, 1=yes
9) sold other drugs?	0=no, 1=yes
10) carjacked?	
11) drove drunk or high?	0=no, 1=yes
12) been paid by someone for sex?	0=no, 1=yes
13) forced someone to have sex?	0=no, 1=yes
14) killed someone?	0=no, 1=yes
15) shot someone and the bullet hit?	0=no, 1=yes
16) shot at someone but the bullet did not hit?	0=no, 1=yes
17) took someone by force with a weapon?	0=no, 1=yes
18) took someone by force without a weapon?	
19) beat up someone causing a serious injury?	0=no, 1=yes
20) been in a fight?	0=no, 1=yes
21) beat someone as part of a gang?	0=no, 1=yes
Substance Usage Scale	
In the past six months, have you used…	
1) marijuana?	0=no, 1=yes
2) sedatives?	0=no, 1=yes
3) stimulants?	0=no, 1=yes
4) cocaine?	0=no, 1=yes
5) opiates?	0=no, 1=yes
6) ecstasy?	0=no, 1=yes
7) hallucinogens?	0=no, 1=yes
8) inhalants?	0=no, 1=yes
9) amyl nitrate?	0=no, 1=yes
10) any other drugs to get high?	0=no, 1=yes
Delinquent Peers Scale	
In the pas six months, how many of your	

[31] For some of the scales in Pathways, individual items were not provided within the restricted data.

friends…	
1) damaged/destroyed property?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
2) hit/threatened to hit?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
3) sold drugs?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
4) got drunk?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
5) carried a knife?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
6) carried a gun?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
7) owned a gun?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
8) got into a physical fight?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
9) hurt someone in a fight?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
10) stole something worth more than $100 dollars?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
11) stole a car?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
12) gone into a building to steal?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
13) suggested you drink with them?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
14) said that to have fun you have to be drunk?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
15) said that to have fun you have to be high?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
16) suggested you sell drugs?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
17) suggested you steal something?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
18) suggested you hit/beat someone up?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
19) suggested you carry a gun?	0-none of them, 1-very few of them, 2-some of them, 3-most of them, 4-all of them
Impulsivity Scale	
1) I will try anything once even if its not that safe	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
2) I should try harder to control myself when I am having fun	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
3) I do things without giving them enough thought	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true

4) I like to do new/different things that many people would consider weird/unsafe	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
5) I become wild and crazy and do things other people might not like	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
6) When doing something fun, I tend to get carried away and go too far	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
7) I say the first thing that comes into my mind without thinking enough about it	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
8) I stop and think things through before I act	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
Aggression Scale	
1) People who get me angry better watch out	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
2) if someone tries to hurt me, I make sure I get even with them	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
3) If someone does something I really do not like, I yell at them about it	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
4) I pick on people I do not like	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
5) I lose my temper and let people have it when I am angry	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
6) I say something mean to someone who has upset me	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
7) When someone tries to start a fight with me, I fight back	0-false, 1-somewhat false, 2-not sure, 3-somewhat true, 4-true
Religiosity Scale	
1) In the past year, how often did you attend church?	0-never, 1-several times a year, 2-once or twice a month, 3-once a week, 4-several times per week
2) How important has religion been in your life?	0-not at all important, 1-not too important, 2-somewhat important, 3-pretty important, 4-very important
3) I experience Gods love and caring on a regular basis	1-not at all true; 2-not very true; 3-somewhat true; 4-pretty true; 5-completely true
4) I experience a close personal relationship to God	1-not at all true; 2-not very true; 3-somewhat true; 4-pretty true; 5-completely true
5) Religion helps me deal with my problems	1-not at all true; 2-not very true; 3-somewhat true; 4-pretty true; 5-completely true

Appendix C:

NCS-A Supplementary Analyses: Results Comparing 12-Month Resiliency Measure to Lifetime Resiliency Measure

Significant protective factors in 12 month analyses but not lifetime analyses	Significant protective factors in both lifetime and 12 month resiliency analyses	Significant protective factors in lifetime analyses but not 12 month analyses	Significant protective factors in 12 month analyses but not lifetime analyses	Significant protective factors in both lifetime and 12 month resiliency analyses	Significant protective factors in lifetime analyses but not 12 month analyses
Research Question 1					
NCS-A High-Risk			**NCS-A Low-Risk**		
Self-esteem (OR: 1.50) Self-efficacy (OR: .67) IQ (OR: .99)	Parental Connectedness (+) Commitment to School (+) Service Utilization (-)	None	Grades (OR: 1.66)	Service Utilization (-)	Parental Connectedness (+) Parental Monitoring (-) Self-efficacy (-)
Research Question 3					
NCS-A High-Risk Females			**NCS-A Low-Risk Females**		
Self-esteem (OR: 1.74) IQ (OR: .98)	Parental Connectedness (+) Service Utilization (-)	School Connectedness (+)	None	Service Utilization (-)	Parental Monitoring (-)
NCS-A High-Risk Males			**NCS-A Low-Risk Males**		
None	Commitment to School (+)	Parental Connectedness (+)	Grades (OR: 2.16)	None	Self-efficacy (-) Parental Connectedness (+) Family Connectedness (+) Service Utilization (-)
Research Question 4					
NCS-A Anxiety High-Risk			**NCS-A Anxiety Low-Risk**		
IQ (OR: .97)	None	Religiosity (-) Peer Support (+) Adult Support (-) Parental	None	Self-esteem (+) Peer Support (-) Family Connectedness (+) Service	Self-efficacy (-) Grades (+)

		Connectedness (+) Service Utilization (-)		Utilization (-)	
NCS-A Depression High-Risk			**NCS-A Depression Low-Risk**		
Self-esteem (OR: 1.91) IQ (OR: .98)	None	Religiosity (-) Peer Support (+) Parental Connectedness (+) Commitment to School (+) Service Utilization (-)	Family Connectedness (OR: 2.04)	Service Utilization (-)	None
NCS-A Substance-Related High-Risk			**NCS-A Substance-Related Low-Risk**		
Self-esteem (OR: 1.17) Family Connectedness (OR: .56) Neighborhood Cohesion (OR: .49)	Parental Connectedness (+) Service Utilization (-)	Parental Monitoring (-)	Family Connectedness (OR: 2.04) Parental Connectedness (OR: .48)	None	Service Utilization (-)
NCS-A Childhood-Related High-Risk			**NCS-A Childhood-Related Low-Risk**		
Parental Connectedness (OR: 1.66)	Service Utilization (-)	None	None	Service Utilization (-)	Self-esteem (+) Adult Support (-)
NCS-A Impulse-Control High-Risk			**NCS-A Impulse-Control Low-Risk**		
None	Commitment to School (+) Parental Connectedness (+)	Service Utilization (-)	Family Connectedness (OR: 2.30) Grades (OR: 2.98)	Parental Monitoring (-)	Service Utilization (-)
NCS-A Bipolar-Related High-Risk			**NCS-A Bipolar-Related Low-Risk**		
Self-efficacy (OR: .30) Grades (OR: .29)	Self-esteem (+)	Perception of Self (-) Commitment to School (+) Service Utilization (-)	IQ (OR: .97)	Parental Connectedness (+)	Adult Support (-) Commitment to School (-) Service Utilization (-) Positive Affect (+)
Research Question 6					

NCS-A Compensatory Resilience Model Full Sample					
None	Service Utilization (-) Parental Monitoring (-)	Self-efficacy (-) Parental Connectedness (+)			
NCS-A Protective Resilience Model Full Sample					
None	None	None			
NCS-A Challenge Resilience Model Full Sample					
None	None	None			
NCS-A Protective-Protective Resilience Model High-Risk			**NCS-A Protective-Protective Resilience Model Low-Risk**		
None	None	None	None	None	None

Appendix D:

Summary of the protective factors related to resiliency from violent victimization based on diagnostic category of high-risk youth with a mental illness

	NCS-A Anxiety Related	NCS-A Bipolar Related	NCS-A Depression Related	NCS-A Impulse Control Related	NCS-A Childhood Related	NCS-A Substance Related	Pathways Substance Related
Individual-Level Protective Factors							
Perception of Self	NS	(-) p<.05	NS	NS	NS	NS	NS
Global Self-Esteem	NS	(+) p<.01	NS	NS	NS	NS	NS
Religiosity	(-) p<.01	NS	(-) p<.05	NS	NS	NS	NS
Future Outlook	—	—	—	—	—	—	(+) p<.05
Protective Factors Related to Social Support							
Peer Support	(+) p<.05	NS	(+) p<.01	NS	NS	NS	NS
Adult Support	NS	NS	NS	NS	NS	NS	(-) p<.05
Parental Connectedness	(+) p<.01	NS	(+) p<.01	(+) p<.01	NS	(+) p<.05	NS
Parental Monitoring	NS	NS	NS	NS	NS	(-) p<.01	NS
Domains of Family Support	—	—	—	—	—	—	(-) p<.05
Depth of Social Support	—	—	—	—	—	—	(+) p<.05
Protective Factors Related to Institutions & Neighborhoods							
Commitment to School	(+) p<.05	(+) p<.01	(+) p<.01	(+) p<.01	NS	NS	NS
Protective Factors Related to having a Mental Illness							
Service	(-)	(-)	(-)	(-)	(-)	(-)	NS

Utilization	p<.001	p<.01	p<.01	p<.01	p<.05	p<.001

Note. NS= Not Significant
— = Not Included

Appendix E:

Summary of the protective factors related to resiliency from violent victimization based on diagnostic category of low-risk youth with a mental illness

	NCS-A Anxiety Related	NCS-A Bipolar Related	NCS-A Depression Related	NCS-A Impulse Control Related	NCS-A Childhood Related	NCS-A Substance Related	Pathways Substance Related
Individual-Level Protective Factors							
Positive Affect	NS	(+) p<.05	NS	(+) p<.05	NS	NS	NS
Global Self-Esteem	(+) p<.001	NS	NS	NS	(+) p<.05	NS	NS
Religiosity	(-) p<.01	NS	NS	NS	NS	NS	NS
Protective Factors Related to Social Support							
Peer Support	(-) p<.05	NS	NS	NS	NS	NS	NS
Adult Support	NS	(-) p<.01	NS	NS	(-) p<.01	NS	NS
Family Connectedness	NS	(+) p<.001	NS	NS	NS	NS	NS
Parental Connectedness	NS	(+) p<.001	NS	NS	NS	NS	NS
Parental Monitoring	NS	NS	NS	(-) p<.05	NS	NS	NS
Protective Factors Related to Institutions & Neighborhoods							
Grades	(+) p<.05	NS	NS	NS	NS	NS	NS
Protective Factors Related to having a Mental Illness							
Service Utilization	(-) p<.001	(-) p<.001	(-) p<.001	(-) p<.05	(-) p<.001	(-) p<.001	NS

Note. NS= Not Significant
— = Not Included

VITA

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While attending Georgia State University, Michelle has been the recipient of numerous awards including the Andrew Young Fellowship Award, Center for Research on Interpersonal Violence (CRIV) Dissertation Grant Award, student travel awards through the CRIV, Academy of Criminal Justice Sciences Doctoral Summit Scholarship Award, and Andrew Young School of Policy Studies Excellence in Criminal Justice and Criminology Doctoral Research Award. Michelle has also published manuscripts examining mental health and victimization while attending Georgia State University including publications appearing in *Journal of Interpersonal Violence*, *Criminal Justice and Behavior*, *Journal of Criminal Justice, Journal of Victimology and Victim Justice,* and *Deviant Behavior*.

During her tenure at Georgia State University, Michelle has worked as a graduate research assistant for Dr. Brent Teasdale and Dr. Leah Daigle. Further, Michelle has independently taught sections of research methods and introduction to criminal justice while at Georgia State University. Finally, Michelle served as the managing editor for *Criminal Justice Review* and *International Criminal Justice* Review. Michelle will be starting a tenure-track, assistant professor job in Criminology at University of Texas- Dallas in August 2020. If in need for more information, please contact Michelle via email: MNH20001@utdallas.edu.