6-2014

A Stress Process Model of Arrest among Homeless Women: Exploring Risk and Protective Factors

Kari C. Gentzler
University of Nebraska-Lincoln, kcgentzler@gmail.com

A STRESS PROCESS MODEL OF ARREST AMONG HOMELESS WOMEN:

EXPLORING RISK AND PROTECTIVE FACTORS

by

Kari C. Gentzler

A DISSERTATION

Presented to the Faculty of

The Graduate College at the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Doctor of Philosophy

Major: Sociology

Under the Supervision of Professor Les B. Whitbeck

Lincoln, Nebraska

June, 2014

A STRESS PROCESS MODEL OF ARREST AMONG HOMELESS WOMEN:

EXPLORING RISK AND PROTECTIVE FACTORS

Kari C. Gentzler, Ph.D.

University of Nebraska, 2014

Adviser: Les B. Whitbeck

Objective: Women constitute one of the fastest-growing segments of both the homeless and incarcerated populations. In addition, homeless women tend to have higher rates of victimization, mental illness, substance use, and criminal justice system involvement compared to non-homeless women, although this body of research is becoming dated. The current study situates homeless women's involvement in the criminal justice system within the stress process model and proposes that these factors—childhood abuse, psychiatric disorders, and homelessness—act as stressors that increase their risk of arrest. In addition, social support and self-efficacy are examined as potential protective factors that may act as buffers against arrest. **Method:** This study utilizes data from 159 homeless women from three U.S. cities: Omaha, Nebraska, Pittsburgh, Pennsylvania, and Portland, Oregon. **Results:** First, rates of childhood abuse and recent arrest were examined: 75% of the women had experienced some physical, verbal, or sexual abuse during childhood and 20% of the women had been arrested in the year prior to the study. Bivariate logistic regression results indicated that childhood sexual abuse was a significant correlate of recent arrests. Next, stressors related to mental illness, substance use, and women's experiences while homeless were tested as mediators of the focal relationship. Drug dependence disorder and victimization experienced while homeless emerged as significant mediators in the relationship between childhood sexual abuse and

arrest. Finally, social support and self-efficacy were explored as moderating resources. These protective factors, however, were unrelated to recent arrest and did not modify the relationship between psychiatric disorders or homelessness stressors and arrest.

Conclusions: The current study supports the stress process model as a valid framework for studying risk and protective factors for arrest among homeless women. Stressors experienced early in life, such as childhood sexual abuse, give rise to stressors in other life domains and lead to maladaptive outcomes. Results of the current study provide evidence for the ongoing criminalization of mental illness and homelessness in contemporary society.

Acknowledgements

Many people have helped me reach this point and deserve to be acknowledged for their guidance and support. I would like first to thank my parents, Bob and Mary Shanahan, for teaching me that working hard always pays off, in more ways than one. Dr. Danelle DeBoer, Professor of Sociology at Doane College, deserves thanks, as she quickly became my favorite professor, mentor, and friend, and encouraged me to pursue a future in Sociology. My parents-in-law, Bob and Kathi Gentzler, have been wonderful cheerleaders and were always there with a well-timed coffee shop gift card to facilitate long study hours!

I have also greatly benefited from the people I have interacted with during my time at the University of Nebraska-Lincoln. I would like to thank my advisor, Dr. Les Whitbeck, for allowing me to work as part of his research team. My work on Dr. Whitbeck's projects gave me the chance to apply skills I learned during graduate classes, and I was able to take advantage of a number of opportunities thanks to his support. The other members of the Healing Pathways team also deserve to be mentioned, as they have all helped me in some way and never failed to make Benton Hall a fun place to work.

I must also thank the other members of my supervisory committee for dedicating their time to this project over the last several years. I am grateful for the expertise of Drs. Kim Tyler and Lisa Kort-Butler and I have enjoyed learning from and working with them both. Additionally, Dr. Pauline Brennan provided valuable assistance and feedback on earlier drafts of this dissertation.

Finally, I would like to thank my husband, Adam, whose love and support for me has never wavered. The road to the Ph.D. would have been a lot bumpier without him.

Grant Information

Table of Contents

CHAPTER 1
INTRODUCTION

Homelessness has been viewed as a major social problem in the United States for

the past four decades (U.S. Conference of Mayors 2012). The hard-to-reach nature of the

homeless population, as well as individuals' movements in and out of homelessness,

makes it difficult to say with certainty the number of people experiencing homelessness.

It is estimated that 2.3 million people experience homelessness at some point during a

year (Burt et al. 1999). A recent "point-in-time" count, conducted across cities in the

United States, found that 656,129 men, women, and children were homeless on one night

in January 2009 (Sermons and Witte 2011). Despite efforts to reduce homelessness, the

homeless population continues to increase; the U.S. had a three percent increase in the

homeless population between 2008 and 2009 (Sermons and Witte 2011). The

demographics of the homeless population, however, have been changing in recent years.

Whereas homelessness was initially seen as a problem for veterans or young men in inner

cities (Burt and Cohen 1989; Burt 1996), women and children now comprise the fastest

growing sub-group of the homeless population (Zugazaga 2004).

The homeless, while certainly not a homogenous group, comprise one of the most

vulnerable sociodemographic groups in our society. Despite the shift in the social

landscape of homelessness, much of what we know about homeless individuals comes

from studies of homeless men. Previous research has documented high rates of

victimization (D'Ercole and Streuning 1990; Davies-Netzley, Hurlburt, and Hough 1996;

Wenzel, Koegel, and Gelberg 2000), mental illness (Smith, North, and Spitznagel 1993;

Robertson and Winkleyby 1996), substance use (Greenberg and Rosenheck 2008), and

criminal justice system involvement (Eberle et al. 2000) among homeless individuals. These factors are both contributors to and consequences of homelessness.

Studies that include both men and women typically have not examined sex differences. In 1993, North and Smith noted the pressing need for the separate analysis of homeless men and homeless women because the two populations have different characteristics and needs. For example, rates of childhood and adulthood victimization (Tolomiczenko and Goering 2001) and mental illness (Fischer 1991) tend to be higher among homeless women compared to homeless men. Additionally, a growing proportion of homeless women have been involved with the criminal justice system. Research indicates that 20% to 52% of women with a history of homelessness also have a history of arrest or incarceration (Smith and North 1993; Zugazaga 2004; Jasinski et al. 2007). Although a number of researchers have answered the call set forth by North and Smith (1993), many of the studies that focused exclusively on homeless women were conducted during the 1990s and are dated. As the population of homeless women continues to increase, newer research is necessary in order to gain a contemporary perspective of the social landscape that homeless women inhabit. Additionally, research that draws from multiple literatures such as victimization, mental health, and criminology will provide a more comprehensive view of the antecedents and outcomes of stress among homeless women.

To address these gaps, I will investigate a stress process model of risk for arrest among women experiencing homelessness. I will explore the consequences of childhood abuse across the life course in order to investigate the mechanisms through which childhood abuse is associated with homeless women's involvement in the criminal justice

system. Because rates of mental health problems are high among victims of childhood abuse, homeless women, and individuals with a history of involvement in the criminal justice system, I will consider mental health diagnoses as potential mediators in the focal relationship. Although there is plentiful evidence linking childhood abuse to later mental health problems and deviant behaviors among housed women (Duncan et al. 1996, Putnam 2002), researchers have not yet investigated the associations between mental disorders (e.g., posttraumatic stress disorder (PTSD) versus major depressive episode (MDE)) and arrest among homeless women. Additionally, homeless women face circumstances, such as exposure to victimization on the streets or in shelters and stressors associated with finding stable housing that domiciled women do not face. These factors also may contribute to the high rates of arrest among homeless women. Finally, it is important to consider potential factors that may act as buffers against criminal justice involvement, such as social support and self-efficacy; as such, these, will be examined as possible moderators.

Summary of Chapters

Chapter 1 provided a brief introduction to the current study. Chapter 2 provides a review of the literature most relevant to the dissertation. Chapter 3 places the study within the stress process model and lists the hypotheses to be tested. The research methodology to be used, including the study design, measures, and analytic plan are outlined in Chapter 4. Chapters 5, 6, and 7 present the results of the analyses that were conducted to test the study hypotheses. Finally, Chapter 8 contextualizes the results and connects them to the theoretical framework before discussing the limitations, strengths, implications, and conclusions that can be drawn from this dissertation.

CHAPTER 2
LITERATURE REVIEW

This dissertation proposes that the links between childhood abuse, negative

mental health and arrest among homeless women can be examined within a stress process

framework. The conceptual model guiding this research (see Figure 1) provides an

organized way in which to examine the literature relevant to the current study. This

chapter will begin with a review of the literature associated with criminal justice system

involvement and then review the literature on the primary stressors (childhood abuse) and

secondary stressors (mental health and substance use disorders and homelessness) that

may act as mediators in the relationships between childhood abuse and arrest. The

chapter concludes with a discussion of moderating resources (social support and self-

efficacy) that affect homeless women's risk of arrest.

Criminal Justice System Involvement

Although more men than women are involved in the criminal justice system, the

number of women under the supervision of the criminal justice system has risen over the

past three decades (James 2004; Frost et al. 2006). Between 1995 and 2006, the number

of incarcerated women rose by 62% (Kruttschnitt 2010). Research has documented that

rates of arrest and incarceration are higher among the homeless population than the

general population (Eberle et al. 2000). Rates of lifetime arrest among samples of

homeless people range from 23% to nearly 60% (Caton et al. 2005; Metraux and Culhane

2006; Garland et al. 2010; Jasinski et al. 2010). Burt et al. (1999) noted that over half of

the men and women who had received homeless services in their study had been

incarcerated at some point, with 49% having spent time in city or county jail and 18%

having spent time in state or federal prison. Nearly one-quarter of the men and women in

a sample of homeless people from single adult shelters in New York City had a history of incarceration (Metraux and Culhane 2006). Similarly, 23.1% of the homeless and marginally housed adults in Kushel and colleagues' (2005) study had been incarcerated at least once during adulthood. Zugazaga (2004) compared the lifetime occurrence of incarceration among homeless men, single women and homeless women with children. Although men had the highest rates of lifetime incarceration (81.5%), a sizable proportion of single women (51.9%) and women with children (33.3%) had spent some time incarcerated during adulthood (Zugazaga 2004).

Some researchers have focused specifically on homeless women's involvement in the criminal justice system. In their study of 700 homeless women in Florida, Jasinski and colleagues (2007) found that half of the women had spent some time incarcerated during adulthood. Just under half of the women in the Los Angeles "Courses of Homelessness Study" had been incarcerated as adults (Koegel, Melamid, and Burnam 1995). Nearly 30% of the homeless women in the St. Louis homelessness study had spent time in jail and 4.6% were convicted felons (North, Smith, and Spitznagel 1994). Similarly, Burt and Cohen (1989) reported that 23% of homeless single women and 15% of homeless women with children had spent at least five days in city or county jail.

Primary Stressors

Childhood Abuse

Definitive prevalence rates of childhood abuse are difficult to ascertain due to a number of factors. For example, many people may be hesitant to disclose information about childhood abuse experiences due to social desirability. On the other hand, some people may have experienced childhood abuse at such a young age that they do not have

a memory of the event(s). In retrospective studies, recall is always an issue. Prevalence

rates differ based on the nature of the sample (e.g., clinical vs. community vs. national).

Additionally, researchers may define child abuse in different ways across studies.

Among females, rates of physical childhood abuse range from 2.6% to 22% depending on

the type of sample and definition of abuse used (Duncan et al. 1996; Briere and Elliott

2003; Sousa 2011). Rates of sexual childhood abuse among females range from 12% to

35% (Horowitz et al. 1997; Putnam 2002; Briere and Elliott 2003). Some studies examine

rates of "childhood maltreatment", that is typically a combination of child physical,

sexual, and psychological abuse and child neglect (Wolfe et al. 2001). Duncan et al.

(1996) found that psychological abuse often accompanies childhood physical and sexual

abuse, but it is difficult to measure and substantiate childhood psychological abuse. In the

National Comorbidity Survey, 9.5% of respondents experienced physical and/or sexual

abuse (Sachs-Ericsson et al. 2005).

Homeless women report higher rates of child abuse (both physical and sexual)

compared to low-income women who are not homeless (Bassuk and Rosenberg 1988;

Butterfield, Panzer, and Forneris 1999) and women in the general population (Duncan et

al. 1996). Among homeless women, researchers have found rates of physical child abuse

that range from 19% (North et al. 1994) to 63% (Bassuk, Melnick, and Browne 1998).

Additionally, rates of sexual childhood abuse range from 23% (North et al. 1994;

D'Ercole and Streuning 1997) to 40% (Bassuk et al. 1998). The homeless and runaway

youth in Whitbeck's (2009) longitudinal study reported extremely high rates of physical

and emotional caretaker abuse. Over 80% reported that a parent or caretaker had been

critical of them or had insulted them, and over 70% of the youth reported experiencing

physical abuse at the hands of a parent or caretaker. Additionally, one-third of the females in the sample had experienced sexual abuse as children (Whitbeck 2009).

Prior literature has demonstrated that a history of childhood abuse is associated with criminal justice system involvement across the life course. Studies of children who have been abused have shown that victims become involved in crime and deviance at earlier ages compared to non-victims (Widom 2000). In a sample of adult women currently in a detention center, Simpson and colleagues (2008) found that a history of childhood sexual abuse significantly increased the odds for childhood-onset of offending. The criminogenic consequences of early victimization are evident in both prospective and retrospective studies. Widom (1989) drew on validated cases of physical and sexual childhood abuse and neglect and found that, compared to a matched control group, victims were more likely than non-victims to have criminal records as adults. In another prospective study, childhood sexual abuse victims were twice as likely as non-victims to have been arrested as adults (Siegel and Williams 2003). Prospective studies have identified childhood abuse as a salient correlate of later offending, as approximately 20% to 50% of abused children are involved in the criminal justice system as adolescents or adults (Fagan 2001). Retrospective studies have shown that between 15% and 49% of female offenders report histories of physical abuse and 14% to 55% report histories of sexual abuse (Lake 1995; McClellan, Farabee, and Crouch 1997; Fagan 2001; DeHart et al. 2013). Official data from the Bureau of Justice report that one in five women in U.S. jails experienced physical or sexual abuse prior to age 18 (James 2004).

Fewer studies have examined the link between early victimization and later criminal justice system involvement among the homeless population. The studies that

have examined this relationship among homeless individuals, however, found that childhood abuse is associated with criminal behavior in young adulthood (Whitbeck and Hoyt 1999; Chapple, Johnson, and Whitbeck 2004; Chen et al. 2006; Kort-Butler, Tyler, and Melander 2011) and adulthood (Tolomiczenko and Goering 2001). In their study of homeless women's experiences of violence, Jasinski and colleagues (2010) found that abuse experienced during childhood was strongly and significantly related to having spent time in a correctional facility as an adult. On the other hand, Garland, Richards, and Cooney (2010) found no relationship between childhood sexual abuse and arrest history in a sample of homeless men and women.

In summary, studies tend to find that victims of childhood abuse are more likely than non-victims to be involved in the criminal justice system as adolescents, young adults, and adults. Retrospective, self-report, and official data show that adult offenders report high rates of both physical and sexual abuse and neglect. Prospective research, which studies victims of child abuse based on substantiated cases, shows that victims are more likely than their non-victimized counterparts to have criminal records later in the life course. Many scholars have pointed out, however, that although there is an association between childhood abuse and later criminal justice system involvement, the relationship is likely conditioned by intervening factors, such as mental health or substance use problems that develop as a result of early victimization (Smith and Thornberry 1995; Goodman, Dutton, and Harris 1997; Swartz and Lurigio 2007). The following sections will review the literature that finds that negative mental health is associated with both childhood abuse and criminal justice system involvement, and in some cases mediates the relationship between the two.

Childhood Abuse and Mental Health

Childhood physical abuse has been found to have a direct effect on subsequent mental health disorders in both housed and homeless samples. In their meta-analysis, Norman and colleagues (2012) found that child physical abuse victims were more likely than non-victims to have PTSD and other panic disorders. The relationship between childhood abuse and PTSD was also demonstrated in a sample of homeless and runaway adolescents (Whitbeck et al. 2007). Using nationally representative data, Duncan and colleagues (1996) found that child physical abuse victims were twice as likely as non-victims to have a lifetime diagnosis of major depressive episode (MDE).

In general, the relationships between childhood physical abuse and mental health outcomes are similar to those found when examining the association between child sexual abuse and mental health disorders. Duncan and colleagues (1996) noted that "child physical abuse victims displayed psychiatric symptoms similar to childhood sexual abuse victims" (445). Stein, Golding, Siegal, Burnham, and Sorenson (1988) found that women who were sexually abused as children were more than twice as likely as non-victims to have a lifetime or current psychiatric disorder. More specifically, the odds of having a lifetime diagnosis of PTSD were over two times higher for respondents who experienced any type of childhood sexual abuse, compared to non-victims (Widom 1999). Findings from two community samples show that a history of child sexual abuse was associated with the development of MDE, substance use disorders, and anxiety disorders (Burnam et al. 1988). In a review of research that spanned ten years, Putnam (2002) found that a number of psychiatric disorders, including MDE, dysthymia, borderline personality disorder, substance use disorders, eating disorders, and dissociative disorders were

significantly more common among childhood sexual abuse victims compared to non-victims. More specifically, a lifetime diagnosis of MDE was three to five times more common among female victims of child sexual abuse compared to non-victims (Putnam 2002).

Some researchers who study the effects of child abuse on mental health outcomes do not differentiate between individual types of child abuse. For example, some researchers conceptualize "child abuse" as any experience of physical, sexual, or emotional abuse or child neglect (Norman et al. 2012). Vranceau, Hobfoll, and Johnson (2007) have an even more broad definition of child abuse. Their term, "child multi-maltreatment" encompasses sexual, physical, and psychological abuse, neglect, and witnessing family violence (Vranceau et al. 2007). Scholars who use combined measures of child abuse find that the effects of abuse during childhood on mental health are similar to the effects found when examining specific types of child abuse. Vranceau and colleagues (2007) found that child multi-maltreatment was directly related to PTSD among low-income women, and Weissmann and Silvern (1994) found that childhood abuse was directly associated with PTSD among women. Using a sample of homeless women from Los Angeles, California, Stein, Leslie, and Nyamathi (2002) found that childhood abuse was associated with increased depression. Among substantiated cases of child abuse and neglect, Widom (1999) found that a child abuse history increased the odds that an individual would be diagnosed with PTSD. Additionally, Norman et al. (2012) reported that child abuse is associated with a higher risk of developing depressive and anxiety disorders.

Secondary Stressors

Mental Illness and Substance Use

In addition to being associated with childhood abuse, mental illness is also a risk factor for involvement in the criminal justice system. Scholars point to the deinstitutionalization of state mental hospitals and lack of adequate community support services as factors that have contributed to the criminalization of those with mental illness (Lamb, Weinberger, and Gross 2004; Torrey et al. 2010). In nationally representative population samples, those with any mental illness were more likely than those without to have been arrested in the past year (Swartz and Lurigio 2007; Glasheen et al. 2012). In addition, having more serious mental health problems was associated with increased odds of having an arrest history (Swartz and Lurigio 2007). Both first arrest and re-arrest are more common among persons with serious mental illness (Cox et al. 2001; Hartwell 2003).

Research regarding the mental health status of women involved in the criminal justice system comes largely from studies that survey female jail detainees and inmates in state and federal prisons. Measures of mental health in these studies range from self-reported symptoms and diagnoses (James and Glaze 2006) to structured diagnostic instruments (Teplin et al. 1996; Constantine et al. 2010). In general, compared to their non-incarcerated counterparts, women in jails and prisons are more likely to have mental health and substance use problems. And even though women make up a smaller share of the arrestee population than men, incarcerated females are more likely than incarcerated males to have problems related to mental illness and substance use (Teplin, Abram, and McClelland 1996; Salisbury and Van Voorhis 2009). The following sub-sections will review literature related to mood and anxiety disorders, particularly depression and

PTSD, antisocial personality disorder (ASPD), and substance use disorders among women involved in the criminal justice system before moving on to an examination of the literature on the intersection of mental health, criminal justice system involvement, and homelessness.

Mood and Anxiety Disorders

In a Bureau of Justice report, James and Glaze (2006) found that 62% of women in state prisons and 70% of women in local jails had mental health symptoms related to major depression, mania, and psychosis. Additionally, 23% of the women reported being diagnosed with a mental health problem by a mental health professional in the year prior to their arrest (James and Glaze 2006). Constantine, Petrila, and colleagues (2010) surveyed adult offenders who had been diagnosed with a serious mental illness and found that 31% had major depressive disorder. Their results, however, were not reported separately for men and women. In a study that focused specifically on female jail detainees, Teplin and colleagues (1996) found that 17% of the women met lifetime criteria for MDE and one-third of the women met criteria for lifetime PTSD.

Antisocial Personality Disorder

Other researchers have paid attention to the role that antisocial personality disorder plays in women's involvement in the criminal justice system. In general, ASPD is characterized by a pervasive pattern of disregard for others accompanied by impulsive or aggressive behavior (American Psychological Association 2000). Therefore it is not surprising that rates of ASPD are higher among women with a history of arrest or incarceration (Cale and Lilienfeld 2002). For example 14% of the women in Teplin and colleagues' (1996) study of female jail detainees met lifetime criteria for ASPD, whereas

rates of antisocial personality disorder among women in the general population ranged from 1.2% to 2.0%, depending on age and race.

Substance Use Disorders

Much attention also has been paid to the high rates of substance use among women involved in the criminal justice system. In a nationally representative sample those with a substance use disorder were six times more likely than those without a substance use disorder to have ever been arrested (Glasheen et al. 2012). Using diagnostic criteria, Teplin and colleagues (1996) reported that 70% of the female jail detainees met lifetime criteria for at least one substance use disorder (32% alcohol abuse/dependence; 64% drug abuse/dependence). In a study of females on probation, Salisbury and Van Voorhis (2009) found that 64% of the women met DSM-IV criteria for drug abuse or dependence in the year before they were incarcerated. It is not surprising that problems related to drug and alcohol use are associated with increased involvement in the criminal justice system, as substance use can alter women's behaviors in such a way that captures the attention of law enforcement. Additionally, simply possessing or using some substances is illegal.

Co-Occurring Mental Health and Substance Use Disorders

Scholars also have recognized that mental health and substance use problems often co-occur. Approximately 50% of adults with substance use disorders also have co-occurring mental illness, and vice versa (Kessler 2004). Among jail detainees with serious mental illness, co-occurring substance use disorder was strongly associated with repeated arrest (Constantine, Petrila et al. 2010) and in a study of adults in dual disorder treatment programs, 44% were arrested during the three year study period (Clark,

Ricketts, and McHugo 1999). Studies that focus specifically on women also find high rates of co-occurring mental health and substance use problems (Houser, Belenko, and Brennan 2012). Among female jail detainees with severe mental disorder, 72% also met criteria for at least one substance use disorder (Teplin et al. 1996). Swartz and Lurigio (2007) found that the relationship between mental illness and arrest for nonviolent crimes was largely mediated by substance use disorders. However, Glasheen and colleagues (2010) found that having any mental illness was still a significant predictor of past-year arrest even after controlling for substance use disorder, signaling that mental health and substance use problems make independent contributions to the likelihood of arrest.

Research has consistently demonstrated that mental health and substance use problems are related to a higher likelihood of criminal justice system involvement. A minority of the research in this area has focused exclusively on women, but these studies find that women are dealing with more mental health problems than their male counterparts even though women represent a smaller share of the overall incarcerated population (James and Glaze 2006). A small number of studies have examined the link between mental health and criminal justice system involvement among the homeless; even fewer have focused specifically on homeless women.

Mental Health and Substance Use among the Homeless

In addition to noting that criminal justice system involvement is more prevalent in the homeless population than in the general population, research also cites the high prevalence of mental illness among the homeless population (Breakey et al. 1989; Fischer and Breakey 1991; Smith et al. 1993; Robertson and Winkleby 1996; Greenberg and Rosenheck 2008). North and Smith and colleagues' work with homeless adults in St.

Louis, Missouri in the early 1990s was an important contribution to the mental health literature in terms of documenting mental disorder diagnoses among homeless men and women. They found that 25% of the women in their sample met lifetime criteria for major depression, 34% had a diagnosis of PTSD (North and Smith 1992), and 10% had a lifetime diagnosis of ASPD (Smith et al. 1993). Other studies of homeless women report rates of lifetime major depression between 16 to 32% (Robertson and Winkleby 1996; Whitbeck 2009) and rates of PTSD between 38 to 79% (Taylor and Sharpe 2008; Whitbeck 2009). Although they did not examine rates of ASPD by sex, Breakey and colleagues (1989) noted that rates of ASPD among homeless men and women ranged from 14 to 21% across studies from the 1980s. Whitbeck (2009) found that half of the homeless young adults in his study met criteria for past-year ASPD.

Rates of substance use disorders among homeless samples also tend to be higher than among the general population. In samples of homeless men and women, rates of substance use disorders hover near the 50% mark (Koegel 1995; Caton 2005). In studies that present rates specifically for homeless women, substance abuse disorders are slightly less common, although still more prevalent than among the general population. For example, Breakey et al. (1989) reported that 38% of the homeless women in their sample met criteria for a substance use disorder. Among the women in the St. Louis homelessness study, 17% met criteria for lifetime alcohol use disorder and 23% met criteria for a lifetime drug use disorder (North and Smith 1992). Overall, lifetime rates of alcohol use disorders range from 16 to 43% and lifetime rates of drug use disorders range from 16 to 51% among homeless women (Robertson and Winkleby 1996; Whitbeck 2009).

Mental health and substance use disorders tend to co-occur among homeless samples, just as they do among the general population. Koegel et al. (1995) found that 16% of the homeless men and women in their study had co-occurring mental health and substance use diagnoses. Among homeless women, Smith and colleagues (1994) reported that 44% had co-occurring Axis I and substance use disorder diagnoses and 62% had co-occurring ASPD and substance use disorder diagnoses. Whitbeck (2009) also found high rates of comorbidity in his sample of homeless young adults.

Mental Health and Criminal Justice System Involvement among the Homeless

A small number of scholars have documented the intersection of homelessness, criminal justice system involvement, and mental health disorders. Homeless individuals and individuals with mental illness both have higher rates of arrest and imprisonment compared to domiciled individuals and those without mental illnesses, respectively (Fischer and Breakey 1991; Greenberg and Rosenheck 2008). In a sample of homeless and runaway adolescents, those with substance use and conduct disorder were more likely than nondisordered youth to have been arrested while homeless (Chen et al. 2006). Mental illness is a risk factor for both homelessness and incarceration (Kushel et al. 2005) and homeless arrestees are more likely than arrestees who are not homeless to have spent at least one night in a mental health facility (Fitzpatrick and Myrstol 2011). Very few scholars have studied the associations between homelessness, incarceration and mental health among women. Related studies typically use jail or prison intake records and do not differentiate between men and women. For example, Greenberg and Rosenheck (2008) used a national jail sample to examine the correlates and prevalence of homelessness among inmates. They found that 15.3% of the sample had been homeless

during the previous year or at the time of arrest. Additionally, they noted that those with psychiatric symptoms were 1.5 times more likely than those without symptoms to be homeless (Greenberg and Rosenheck 2008). McNiel, Binder and Robinson (2005) studied the incarceration records at San Francisco jails for six months in 2000 to examine the co-occurrence of mental illness and jail stays. Similar to Greenberg and Rosenheck (2008), McNiel et al. (2005) found that 16% of the sample had been homeless at the time of incarceration.

Homelessness

Homeless individuals may be at greater risk for involvement in the criminal justice system compared to domiciled individuals because they carry out their lives in public areas (Metraux, Roman, and Cho 2007). In homeless shelters, women often share close quarters with other women whom they may not know (National Law Center on Homelessness and Poverty 2009). Noise, crowding, and competition for resources such as a shower with hot water are daily hassles that women in homeless shelters face (Klitzing 2004). And although shelters take measures to prevent theft and physical or verbal altercations, they still occur (Grunberg and Eagle 1990; Jasinksi et al. 2010). Homeless women who are unsheltered are even more visible to the public and to law enforcement officials compared to sheltered women. Oftentimes the homeless are perceived as offensive or dangerous to society (Barak and Bohm 1989; Gans 1995) and, as a result, legislators in cities across the country have passed quality of life initiatives that may be more aptly referred to as "anti-homeless laws" (Mitchell 2003). For example, the Berkeley, California City Council passed legislation that outlawed begging at night, "aggressive panhandling", and begging within ten feet of an ATM (Mitchell 2003: 161).

In addition to restricting activities in which typically only the homeless or poor engage, laws dictate how public space may be used, in some cases making it illegal to sit on a sidewalk (Donley 2008). Anti-homeless legislation is not limited to Berkeley, however. For example, it is illegal to sleep in public in Santa Cruz, California, San Diego, California, Phoenix, Arizona and Seattle, Washington (Mitchell 2003). Homeless women report being cited for these types of order maintenance crimes (Donley 2008). Furthermore, performing activities that may be routine for people with homes (e.g., sleeping, drinking alcohol, urinating) is grounds for arrest for unsheltered women (National Law Center on Homelessness and Poverty 2009). Prior literature from homeless young adults finds that length of time spent homeless is also associated with an increased risk for criminal justice involvement (Gelberg, Linn, and Leake 1988; Ferguson et al. 2012)

Summary

Research has documented higher rates of childhood abuse (Bassuk and Rosenberg 1988; Duncan et al. 1996; Butterfield et al. 1999) and mental disorders (Breakey et al. 1989; Fischer and Breakey 1991; Smith et al. 1993; Robertson and Winkleby 1996; Greenberg and Rosenheck 2008) among homeless women compared to non-homeless women. These factors put homeless women at greater risk for arrest. Because prior empirical research has shown that mental illness and substance use are associated with childhood abuse and with criminal justice system involvement (Fischer and Breakey 1991; Greenberg and Rosenheck 2008), it is likely that mental health diagnoses mediate the relationship between early victimization and recent arrest. However, the literature is unclear as to whether different mental disorder diagnoses operate in similar or different

ways as intervening variables. Additionally, very little research has examined the extent

to which factors related to being homeless, such as living in public areas or being

victimized while homeless, put women at risk for arrest. The next chapter provides a

theoretical framework through which to understand how childhood abuse is related to

arrest among homeless women, and what potential mediating risk factors and moderating

protective factors may be at play.

CHAPTER 3
THEORETICAL PERSPECTIVE

This dissertation draws on a stress process model of arrest among homeless

women. This chapter will describe the basic tenets of the stress process model and

illustrate how the current study is situated within a stress process framework. I conclude

the chapter by presenting the hypotheses that will be tested in this study.

The Stress Process Model

The stress process model, first articulated by Leonard Pearlin and colleagues

(1981; 1989) posits that the manifestation of social stress is a dynamic process that

includes sources of stress and coping resources. This dissertation is guided by a

conceptual model that outlines the proposed relationships between the variables discussed

in Chapter 2 (see Figure 1). Involvement in the criminal justice system, conceptualized as

recent arrest, is the outcome variable of interest. I propose that being arrested is the

behavioral manifestation of stress. Although the stress process model was developed to

explain mental health outcomes (Pearlin 1989; 1999), I argue that problematic mental

health and substance use are manifestations of stress for homeless women and may

contribute to arrest rates that are higher than among the general population (Avison

1999). For homeless women, arrest is the culmination of their underclass economic

status, exposure to primary and secondary stressors, and lack of moderating resources.

An important factor to consider when outlining a stress process model of criminal

justice involvement is individuals' location in the social structure. The social and

economic statuses that individuals hold are a key component in stress theory, as they are

connected to all parts of the stress process (Pearlin 1989). As Pearlin (1999) noted, "these

statuses have the potential to impact well-being directly through their influence in

shaping the context of people's lives, the stressors to which they are exposed, and the moderating resources they possess" (399). Homeless women occupy a marginalized underclass status in today's society, and this underclass status permeates all of their interactions and experiences (Bernard 1990; Goodman, Saxe, and Harvey 1991).

As life course theorists have shown (Elder 1998; Elder, Johnson, and Crosnoe 2003), early life events play a key role in shaping one's trajectory and future outcomes. Therefore it is crucial to consider individuals' personal histories when examining their reactions to or outcomes of stress. Although child abuse is a relatively rare stressor, research has shown that most victims perceive it as a traumatic event (Wheaton 1996). The stress process suggests that exposure to childhood abuse has negative consequences for women in both the short- and long-term (Finklehor 1990; Carlson et al. 1997; Turner 2010). One way that traumatic experiences may be related to future involvement in the criminal justice system is by modifying one's reactions to future stressors. Experiencing stressful events during childhood, such as childhood abuse, has been found to change the way in which individuals react to stress later in the life course (Glaser et al. 2006). This might occur by decreasing their positive coping resources (Taylor and Aspinwall 1996; Rutter et al. 1997) and/or by altering their disposition in such a way that keeps others at a far social distance (Dodge, Bates, and Pettit 1990). For example, Dodge, Pettit, Bates and Valente (1995) found that victims of childhood abuse were more likely than non-victims to interpret others' actions as being hostile, and then react with aggression. Both of these scenarios—decreased coping skills and hostile disposition—reduce individuals' abilities to handle future stress in a prosocial manner. Therefore, childhood abuse is a critical

primary stressor to be considered in an examination of individuals' later mental illness, substance abuse, and criminal justice involvement within the context of homelessness.

The stress process model also suggests that stress begets stress. The process by which early stressors have a direct effect on later stressors is known as stress proliferation (Pearlin, Aneshensel, and LeBlanc 1997). This dynamic process was defined by Pearlin and colleagues (1997) as "the expansion or emergence of stressors within and beyond a situation whose stressfulness was initially more circumscribed" (223). Stress proliferation helps to explain how stressors may accumulate over time. In this dissertation I am particularly interested in secondary stress proliferation (Pearlin et al. 1997), which occurs when "primary stressors disrupt patterns of social interactions, obligations, and expectations and lead to problems in other life domains" (214). In other words, through the process of secondary stress proliferation, primary stressors give rise to secondary stressors.

The secondary stressors of particular relevance to the current study are associated with mental illness, substance use and homelessness. Although mental illness and substance use disorders are not stressors in and of themselves, the diagnoses signal that individuals have difficulties in functioning that may be perceived as stressful and may heighten their vulnerability to stressful circumstances. For example, chronic sleep disturbance, which can be caused by insomnia (a symptom of MDE) or distressing dreams (a symptom of PTSD), is associated with higher levels of stress hormones (Sapolsky 2004). Irritability, aggressiveness, and consistent irresponsibility are symptoms of ASPD that can lead to job loss and the stress associated with unemployment (American Psychological Association 2000). Additionally, alcohol and drug use that

meets diagnostic criteria for abuse or dependence oftentimes leads to legal problems, unemployment, physical fights, and strained interpersonal relationships (American Psychological Association 2000). Mental health problems, including the disorders discussed here, have been documented as potential outcomes of childhood abuse (Turner 2010) and are associated with criminal offending (Eitle and Turner 2003).

Stressors associated with being homeless are also important secondary stressors to consider. Women who do not have a permanent residence run the risk of being victimized while living on the streets or in shelters (Wenzel, Koegel, and Gelberg 2000). Homeless women who sleep outside or in other places not intended for habitation report feelings of hyper-vigilance and sleep deprivation in order to protect themselves if needed (Jasinski et al. 2010). This heightened, chronic level of arousal corresponds with high levels of distress (Goodman et al. 1991). Other research has found that living in shelters, that are often noisy and crowded, is a distressful situation in that the residents must abide by a schedule for eating, sleeping, and recreation that is set by the shelter (Dachner and Tarasuk, 2002; Meadows-Oliver 2003). Therefore, a stress process model of arrest among homeless women cannot ignore the contributions of mental illness, substance abuse, and homelessness as both direct and potentially indirect stressors.

Protective Factors

Not all women who are exposed to these stressors are arrested, however. Important protective factors, that may "hinder, prevent, or cushion the development of the stress process and its outcomes" (Pearlin 1999: 405), include social support (both emotional and instrumental) and a sense of personal control (i.e., self-efficacy or mastery). The importance of social support in buffering the effects of stress on outcomes

has been documented in theoretical and empirical work (Turner and Turner 1999; Pearlin 1999; Thoits 2010; 2011). Criminologists have also demonstrated that social support prevents crime by "providing resources that allow individuals to cope with adversity through noncriminal means" (Cullen 1994; Colvin, Cullen, and Vander Ven 2002:24). Mastery also has been documented as a potential moderator of stress (Eshbaugh 2010; Thoits 2010). Pearlin (1999) hypothesized that mastery works to moderate the effects of stressors on outcomes in two ways. First, those with high levels of mastery may be less threatened in the face of stressors compared to those with lower levels of mastery. Second, if people perceive a high level of control over their lives their actions are likely to reflect that. In essence, mastery becomes a self-fulfilling prophecy. The role of social support and self-efficacy as moderators in the current stress process model of arrest will be examined.

Summary and Hypotheses

To summarize, the purpose of this study is to employ the stress process model to examine risk and protective factors that relate to recent arrest among homeless women. Although childhood abuse has been linked to negative outcomes such as diminished mental health, increased substance use, criminal activity, and homelessness, prior research has not situated the relationship between childhood abuse and arrest within a stress process framework. Additionally, it is unclear whether the relationship between childhood abuse and adulthood arrest differs based on the type of secondary stressor developed. Finally, no research has examined this model among homeless women, who comprise one of the most vulnerable, marginalized groups in our society. Based on the literature reviewed in Chapter 2 and the stress process theoretical framework discussed

above, this dissertation will test the following hypotheses using a sample of homeless

women from three U.S. cities. See Figure 1 for a visual representation of the

hypothesized pathways outlined below:

H1) Childhood abuse, including physical, sexual, and verbal abuse, will be

positively associated with past-year arrest (path A).

H2) Childhood abuse will be positively associated with mental health disorders

including diagnoses of PTSD, major depressive disorder, personality disorders, and

substance use disorders (path B).

H3) Childhood abuse will be positively associated with stressors related to

homelessness, including victimization while homeless, housing-related stressors, months

with homeless episode, and a history of sleeping outside (path C).

H4) Diagnoses of PTSD, MDE, ASPD, and substance use disorders will be

positively associated with past-year arrest (path D).

H5) Homelessness stressors will be positively associated with past-year arrest

(path E).

H6) Mental health diagnoses will mediate the relationship between childhood

abuse and arrest.

H7) Homelessness stressors will mediate the relationship between childhood

abuse and arrest.

H8) Moderating resources, including instrumental social support, emotional social

support, and self-efficacy, will be negatively associated with past-year arrest (Path F).

H9) Social support and self-efficacy will moderate the effect of mental health

diagnoses on past-year arrest (path G).

H10) Social support and self-efficacy will moderate the effect homelessness stressors on past-year arrest (path H).

The next chapter describes the sample and outlines the research methodology that will be used to test these hypotheses.

CHAPTER 4
RESEARCH METHODOLODY

Sample

These data were collected as part of the Novel Approaches to Understanding

Mental Disorder, Substance Abuse and HIV Risk among Homeless Women Pilot Study

(funded by the National Institute of Child Health and Human Development HD058989),

that involved interviews with 159 women who self-identified as "homeless" based on the

definition used in the Steward A. McKinney Act of 1987 (U.S. Department of Housing

and Urban Development 1995) or reported that they were "doubling up" (Burt 1996) in

Omaha, Nebraska, Pittsburgh, Pennsylvania, and Portland, Oregon. The Steward A.

McKinney Act defines a person as homeless if they lack "a fixed, regular, and adequate

nighttime residence", if their primary nighttime residence is a "supervised, publicly or

privately operated shelter designed to provide temporary living accommodations, an

institution that provides temporary residence for individuals intended to be

institutionalized, or a public or private place not designed for or ordinarily used as a

regular sleeping accommodation for human beings" (U.S. Department of Housing and

Urban Development 1995). "Doubling up" refers to situations in which an individual is

staying with family, friends, or someone else where they are not contributing to the rent

and they expect to be asked to leave in less than two months (Burt 1996). Interviews

were conducted between August 2010 and May 2011 in order to account for the effects of

seasonality on sampling outcomes and on mental health outcomes.

Because no single list exists from which to draw a sample of homeless women,

the current study utilized a multiple frame sampling approach (Hartley 1962; Sudman,

Sirken, and Cowan 1988) that has been used to study homeless populations in many U.S.

cities (Rossi, Fisher, and Willis 1986; Iachan and Dennis 1993; Smith, North, and

Spitznagel 1993; Koegel, Burnam, and Morton 1996) and nationally (Burt and Cohen

1989; Burt et al. 1999). The target population was homeless women in Omaha,

Nebraska, Pittsburgh, Pennsylvania, and Portland, Oregon. Shelters, meal kitchens, and

high concentration outdoor areas served as the three frames in each city of this study. In

each of the three cities, shelters, meal kitchens, and high concentration outdoor areas

within the city limits were enumerated and an estimated measure of size was obtained

(e.g., the number of beds allocated to or typically occupied by women in shelters, the

number of people served during each meal time at a meal kitchen and the proportion of

those guests who are typically women, and the number of homeless women who can be

typically found in outdoor locations). The estimated measure of size was obtained for

shelters by contacting shelter staff and asking for a count of the number of beds overall

and by gender (including beds in family rooms). Estimated measures of size from meal

kitchens and outdoor locations were obtained by sending an interviewer to the location

who was trained to record the number of people and the number of women in the

location, using forms called quick counts. In each of the three frames, locations were

selected with probabilities proportional to size to achieve a desired sample size of 100

women in Omaha, 50 women in Portland, and 50 women in Pittsburgh after accounting

for eligibility and nonresponse. Within selected locations, a systematic random sample

was taken from lists of residents or overnight guests in shelters, a systematic random

sample of persons using a predetermined random start and a skip interval existing from

the meal kitchen, and all observed women at the outdoor locations.

Contact letters were sent to selected beds in shelter locations, explaining the purpose of the study, inviting the individual to participate, and providing the individual with contact information of project staff. In meal and outdoor locations, selected women were approached by project staff who explained the purpose of the study and invited them to participate. Each selected person was screened to determine whether they were homeless. All women between the ages of 19 to 54 years were eligible to be selected from shelters, women at meal locations were eligible if they fell in the appropriate age range and they had not stayed in a shelter during the last week, and women in outdoor locations were eligible only if they fell in the appropriate age range and had not utilized shelter or meal location services during the last week. Our sampling frame did not capture marginally housed women (e.g., those doubling up or couch surfing) except for those who used meal locations. Due to the fluid nature of homelessness (Piliavin et al. 1996; Lee, Tyler, and Wright 2010), the multiple frame sampling approach was employed in order to reach a diverse sample of homeless women with varying connections to social service agencies. Our goal was to recruit sheltered homeless women, unsheltered homeless women who accessed occasional services (e.g., meal locations), and unsheltered women who rarely accessed services (e.g., outdoor locations). The final sample, however, consisted primarily of sheltered homeless women, as 142 women were recruited from shelters, 16 women were recruited from meal locations, and one woman was recruited from an outdoor location. Researchers contacted or attempted to contact (letters in shelter locations and approaches in meal/outdoor locations) a total of 561 potential participants during the summer of 2010 and winter of 2010-2011. Approximately 37% of the women (N=207) were missed—they either did not respond to

the letters at shelters or project staff was unable to make contact with the selected person in meal or outdoor locations. Twenty six percent of the contacts (N=146) were to ineligible individuals (due to not identifying as homeless (N=64), gender (N=33), age (N=38), or being selected at a meal or outdoor location when they had utilized a shelter within the past week (N=11). Forty-four women were contacted and eligible but refused to participate. Overall, 164 women were contacted, eligible, and interviewed for this project (78.8% of the contacted, eligible women). Five of these women were interviewed during both the first (summer) and second (winter) round of sampling selection, and thus were interviewed twice. Their second interviews were removed from the dataset, leaving a total of 159 women who completed at least one section of the interview (N=80 Omaha; N=39 Pittsburgh; N=40 Portland).

Interviewers administered four survey instruments to each respondent. These were administered during two interview sessions. In the first session, respondents completed the World Health Organization Composite International Diagnostic Interview (WHO-CIDI) computer assisted interview as well as the paper and pencil Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV). The paper and pencil personal interview (which included an Event History Calendar) and a self-administered questionnaire were administered during the second session. Each session lasted two hours or less. Respondents were reimbursed for their time and effort in each session with a $20 gift card to a local store (i.e., $40 gift card for completing both sessions). The local stores were establishments that sold food, clothing, and hygiene products but did not sell cigarettes or alcohol.

Measures

Dependent Variable

Past-year arrest. The focal dependent variable is a dichotomous indicator of past-year arrest. The women were asked, "Were you arrested in the past 12 months?" The variable was coded so that 1= "yes" and 0= "no".

Independent Variables

Primary Stressors. The focal independent variables are three measures of childhood abuse that occurred before age 18. Physical abuse was assessed with a single item that asked whether an adult ever hit, beat, kicked, or physically hurt the women. Verbal abuse was assessed with a single item that asked whether an adult had ever called them names, said mean things to them, or told them they were unwanted. Sexual abuse was assessed by asking the women three separate questions that asked whether an adult had ever: 1) touched them in a sexual way that was unwanted by the woman, 2) made the woman touch the adult in a sexual way that was unwanted by the woman, and 3) forced the woman to have sex. The childhood sexual abuse variables were collapsed into one indicator for childhood sexual abuse such that 1= "experienced any type of childhood sexual abuse" and 0= "experienced no childhood sexual abuse". An overall indicator for any childhood abuse was created such that women who answered positively to any of the childhood abuse items were given a '1' and women who answered negatively to all of the items were given a '0'.

Secondary Stressors. Eight measures of secondary stressors were included in the analyses: four measures of mental health and substance use diagnoses and four measures related to the women's homelessness episodes. The mental health diagnoses served as proxies for the stresses that may be associated with each disorder. Lifetime criteria for

DSM-IV-TR (2000) Axis I mood and anxiety disorders and substance use disorders were

assessed with the World Health Organization Composite International Diagnostic

Interview (WHO-CIDI) (Kessler, Berglund et al. 2005; Kessler, Chiu et al. 2005). A

subset of the CIDI modules was included to identify women with *internalizing disorders*

(MDE, PTSD) and *substance abuse disorders* (alcohol abuse and dependence, drug abuse

and dependence). A standardized version of the Diagnostic Interview for DSM-IV

Personality Disorders (DIPD-IV) (Zanarini et al. 1996), adapted for administration by lay

interviewers, was used to assess Axis II *antisocial personality disorder* (Armenta,

Whitbeck, and Zanarini 2012). In order to be consistent with the DSM-IV-TR, the DIPD-

IV also includes a module to assess adolescent criteria for Conduct Disorder (CD). The

DIPD-IV assessed past-year criteria for ASPD (and CD). In line with the DSM-IV-TR,

final ASPD diagnoses required classification as both CD and ASPD. Computer

algorithms were used to determine whether women met diagnostic criteria for each

mental health or substance use disorder.

Four measures assessed women's stressful experiences while homeless. First,

months with homeless episode was a continuous variable of the total number of months

during which the women had an episode of homelessness, as reported on the event

history calendar. Second, *slept outside* was a dichotomous indicator of whether the

women had ever slept anywhere outside while homeless, such as a street, park,

campground, bench, or under a bridge or overpass. An index of *victimization while*

homeless was assessed with six items in which women were asked to report how many

times they had been beaten up, robbed, asked to do something sexual, sexually assaulted

or raped, threatened with a weapon, or assaulted with a weapon at any time while they

were homeless. Each of the six items were dichotomized such that 1= "experienced" and 0= "did not experience". Then the items were summed to create a count of the types of victimization experienced while homeless (range 0 to 6). An index of *housing-related stressors* was constructed with six dichotomous indicators of hassles associated with finding and maintaining shelter. The items included in this index can be found in Appendix A.

     Moderating Resources. Three potential moderating factors were included in the analyses: emotional social support, instrumental social support, and self-efficacy. *Emotional social support* was assessed by asking respondents to list the number of people in their lives who they "can count on to care about you, no matter what is happening to you? People that accept you totally, including your good and bad points, people who are ready to accept you when you are upset, and who are really concerned about your feelings and welfare?" *Instrumental social support* was assessed by asking respondents to list the number of people in their lives who they "can count on to give you help and aid? People who may lend you money, give you food, or give you a place to stay without asking for anything in return?" After examining the distribution for the two social support items and identifying outliers, the number of both instrumental and social supporters was capped at 10. *Self-efficacy* is a construct measured with eight indicators of personal control (see Appendix B for individual items). Response categories were coded on a Likert Scale (1= "strongly agree" to 4= "strongly disagree"). The items were summed such that a higher number indicates more self-efficacy (range 1 to 12). Cronbach's alpha for the scale was .62.

Sociodemographic Variables. Age of the women, in years, was asked and recorded at the time of the interview. Race and ethnicity was assessed with a *racial/ethnic minority* dichotomous variable where a '1' included women who identified as anything other than Non-Hispanic white. Sexual orientation was assessed with a dichotomous variable where a '1' included women who identified as *lesbian/bisexual.* *Education* was measured in years. Women were asked to report their total income, from all sources, for the month prior to the interview. Women who earned less than $300 were given a '1' and women who earned more than $300 were given a zero. Marital status was assessed with a dichotomous variable where a '1' included women who were married and a '0' included unmarried women.

Analytic Procedures

To test the hypotheses proposed in Chapter 3, I utilized several analytic techniques. First, descriptive and bivariate analyses were conducted to depict the sociodemographic characteristics of the homeless women in the study and to examine correlations between the variables of interest (see Tables 1 and 2). With the exception of Hypothesis 3, each of the hypotheses was tested using binary logistic regression. Because three of the homelessness stressors were count variables (victimization on the street, housing stressors, and months with homelessness episode), they were estimated using negative binomial regression in Stata version 11 (StataCorp 2009). In all regression analyses, categorical independent variables were specified as such. I followed Jose's (2013) procedures for conducting mediation and moderation analyses that is based on the approach outlined by Baron and Kenny (1986). For Hypotheses 6 and 7, I used Sobel's z-test to determine whether the reduction in the relationship between the primary

independent and dependent variables upon inclusion of the mediating variable was

statistically significant (Sobel 1982). For Hypotheses 9 and 10, I created interaction terms

between each of the secondary stressors and each of the protective factors. I then

conducted a series of binary logistic regressions which included a secondary stressor, a

protective factor, and their interaction term. With the exception of the negative binomial

regression analyses, all analyses for this study were performed using SPSS version 21

(IBM Corp. 2011).

CHAPTER 5
PRIMARY STRESSORS

Descriptive Statistics and Bivariate Correlations

(Table 1 about here)

Descriptive statistics for the study variables are presented in Table 1. Twenty percent of the homeless women indicated they had been arrested in the year prior to the interview, the dependent variable in this dissertation. The women were, on average, 39 years old. Over half (52.5%) identified as a racial or ethnic minority, and a small proportion identified as lesbian or bisexual (13.3%). The women reported an average of 12 years of education, however over half (53.4%) reported earning less than $300 in the month prior to the interview. Just over one-fifth of the sample (22.0%) reported that they were currently married.

Victimization during childhood was prevalent among the homeless women in the sample. An examination of the specific types of childhood abuse reported revealed that physical abuse was the most common (54.0%), followed closely by psychological abuse (53.7%), and sexual abuse (51.9%). Overall, 75.3% of the women experienced some type of childhood abuse (e.g., physical, sexual, and/or psychological).

Mental health and substance use disorders were also a problem for many of the women in the study. Half of the women met lifetime criteria for major depressive episode, and 41.1% met lifetime criteria for posttraumatic stress disorder. Over one-quarter of the women (27.2%) met lifetime criteria for alcohol abuse (without dependence), and nearly that many (26.6%) met criteria for alcohol dependence. Sixteen percent of the women were diagnosed with lifetime drug abuse (without dependence)

disorder and 42.4% of the women met lifetime criteria for drug dependence disorder. Few

women met lifetime criteria for antisocial personality disorder (7.5%).

Women reported experiencing an average of one type of victimization while

homeless (range: 0-6) and 1.44 housing-related stressors in the past year (range: 0-6).

More than forty percent of the women (41.3%) reported that they had spent at least one

night while homeless sleeping outside. The women averaged 36 months in which they

experienced at least one episode of homelessness (range: 1-333). To correct for its

substantial positive skew, the variable measuring the number of months in which women

reported at least one episode of homelessness was transformed using the natural log for

regression analyses.

(Table 2 about here)

Table 2 presents the Pearson correlation matrix for all of the study variables. The

dependent variable, past-year arrest, was significantly and positively correlated with any

childhood abuse (r= .17, *p*< .05), sexual childhood abuse (r= .18, *p*< .05), alcohol

dependence disorder (r= .23, *p*< .001), drug dependence disorder (r= .27, *p*< .01),

victimization while homeless (r= .31, *p*< .001), and a history of sleeping outside (r= .19,

p< .05). The positive correlation between arrest and ASPD approached significance (r=

.16, *p* = .07), as did the negative correlation between recent arrest and the number of

reported instrumental supporters (r= -.20, *p*= .08). Because none of the sociodemographic

variables were significantly correlated with the dependent variable at the bivariate level,

they were excluded as control variables in the subsequent analyses in an effort to

conserve statistical power. An examination of the correlations among the primary

stressors revealed that physical childhood abuse and verbal childhood abuse were highly

correlated (r= .65, *p*< .001). Therefore the two variables were combined for subsequent analyses to avoid problems associated with collinearity (Jose 2013). Significant correlations among the secondary stressors did not exceed .53, indicating collinearity among these variables was not a problem (Pedhazur 1997).

The Focal Relationship

(Table 3 about here)

Binary logistic regression was used to test Hypothesis 1 and assess the focal relationship between childhood abuse and past-year arrest (Path A in the conceptual model). Table 3 presents these results. The overall measure of childhood abuse was significantly and positively associated with past-year risk of arrest. Compared to those who had never experienced childhood abuse, women who had experienced any type of childhood abuse (e.g., physical, sexual, and/or psychological) were three and a half times more likely to have been arrested in the past year (OR= 3.56, *p*<.05). Of the individual childhood abuse measures, only sexual abuse was significantly and positively associated with past-year arrest. Women who reported being victims of sexual abuse during childhood were 2.66 times more likely than women who reported no childhood sexual abuse to have been arrested in the past year (*p*<.05). Hypothesis 1, which proposed childhood abuse would be positively associated with recent arrest, was supported by the data.

The Relationship between Primary and Secondary Stressors

Mental Health and Substance Use Disorders

Hypothesis 2 proposed that childhood abuse would be positively associated with mental health problems. To test this hypothesis, each of the mental health and substance

use disorders were separately regressed on the childhood abuse measures (path B of the conceptual model). The following paragraphs will describe the relationship between the primary stressors and each of the mental health and substance use secondary stressors.

(Table 4 about here)

Table 4 shows the relationship between childhood abuse and major depressive episode. Women who reported physical or verbal childhood abuse were nearly twice as likely as women who did not report physical or verbal abuse to meet lifetime criteria for major depressive episode. This association approached statistical significance (OR= 1.94, p= .06). The overall measure of childhood abuse was not significantly associated with major depressive episode, nor was the individual childhood sexual abuse measure.

(Table 5 about here)

Next, PTSD was regressed on each of the childhood abuse measures. The results are presented in Table 5. Experiencing any childhood abuse doubled the odds of meeting lifetime criteria for PTSD (OR= 2.05, p= .08). Women who were physically or verbally abused as children were nearly twice as likely as those who were not physically or verbally abused to have PTSD (OR= 1.98; p=.05). Having a history of sexual childhood abuse was associated with a three-fold increase in the odds of PTSD (OR= 3.03; p< .01).

(Table 6 about here)

Table 6 shows that none of the childhood abuse measures were significantly associated with a diagnosis of antisocial personality disorder.

(Table 7 about here)

(Table 8 about here)

Next, I tested the associations between childhood abuse and substance use disorders, including alcohol abuse disorder, alcohol dependence disorder, drug abuse disorder, and drug dependence disorder. Tables 7 and 8 present the results for alcohol abuse and alcohol dependence disorders, respectively. None of the childhood abuse measures were significantly associated with lifetime alcohol abuse or alcohol dependence disorders.

(Table 9 about here)

(Table 10 about here)

Table 9 shows that none of the childhood abuse measures were significantly associated with lifetime drug abuse disorder. The overall measure of childhood abuse was significantly and positively related with drug dependence disorder (Table 10). Women who experienced any childhood abuse were 2.12 times more likely than those who were not abused to be drug dependent ($p= .06$). Victims of sexual childhood abuse were also more than twice as likely as non-victims to meet lifetime criteria for drug dependence disorder (OR=2.36, $p<.05$).

Taken together, Tables 3 through 10 provide partial support for my second hypothesis, which proposed that childhood abuse would be positively associated with mental health and substance use disorders. The overall measure of childhood abuse was significantly associated with increased odds of PTSD and drug dependence. Physical or verbal childhood abuse was significantly associated with increased odds of MDE and PTSD. Sexual childhood abuse was significantly associated with increased odds of PTSD and drug dependence.

Homelessness Stressors

To test Hypothesis 3, each of the secondary stressors related to homelessness were separately regressed on the childhood abuse measures (path C of the conceptual model). Because they were count outcomes, negative binomial regression was used to predict victimization while homeless, homelessness stressors, and months with a homeless episode. Tables 11 through 14 present these results.

(Table 11 about here)

All of the childhood abuse measures were positively associated with victimization experienced while homeless (Table 11). The association between overall childhood abuse and victimization while homeless approached significance (b= .54; *p*= .09). Experiencing physical or verbal childhood abuse was associated with a 0.75 increase in types of victimization experienced while homeless (*p*< .01). The number of types of victimization women experienced while homeless was expected to be 0.60 higher for women who experienced sexual childhood abuse compared to women who did not report sexual abuse (*p*< .05).

(Table 12 about here)

Next, the housing stressors index was regressed on the each of the primary stressors. Table 12 shows that experiencing any childhood abuse was associated with a significant increase in the number of housing stressors women experienced (*b*= .49, *p*<.05). Additionally, experiencing physical or verbal childhood abuse was associated with a 0.73 increase in housing stressors (*p*< .001). Sexual childhood abuse was not significantly associated with housing stressors.

(Table 13 about here)

Table 13 presents the bivariate logistic regression results when a history of ever sleeping outside was regressed on the primary stressors. The overall measure of childhood abuse was not significantly associated with sleeping outside. Women who reported physical or verbal childhood abuse, however, were more than two and a half times as likely to have ever slept outside compared to women who did not report physical abuse (OR= 2.73, p< .01). Additionally, women who reported sexual childhood abuse were nearly twice as likely as women who did not report sexual abuse to have ever slept outside (OR= 1.99, p< .05).

(Table 14 about here)

None of the primary stressors were significantly associated with the number of months women experienced homelessness, as shown in Table 14.

Taken together, Tables 11 through 14 provide partial support for Hypothesis 3, which proposed that childhood abuse would be positively associated with secondary stressors related to the women's homelessness experiences. The overall measure of childhood abuse was significantly associated with increased victimization on the street and housing stressors. Physical/verbal childhood abuse was significantly associated with increased victimization on the street, housing stressors, and having ever slept outside. Sexual childhood abuse was associated with increased victimization on the street and having ever slept outside.

Summary

This chapter outlined the direct effects between the primary stressors and arrest, as well as the direct effects between the primary stressors and the secondary stressors. In general, the association between overall childhood abuse and recent arrest seems to be

driven by childhood sexual abuse, as physical or verbal childhood abuse was not significantly associated with arrest. Separating the overall childhood abuse measure into two measures, sexual abuse and physical or verbal abuse shows that the type of abuse matters for the type of secondary stressor. For example, physical or verbal abuse was associated with MDE but sexual abuse was not. Additionally, sexual abuse was associated with drug dependence but physical or verbal abuse was not. Although both childhood abuse variables were associated with sleeping outside and victimization while homeless, only women with a history of physical or verbal abuse had significantly more housing stressors. The next chapter examines the direct effects between the secondary stressors and arrest and tests whether the secondary stressors mediate the association between childhood abuse and arrest.

CHAPTER 6
SECONDARY STRESSORS

The Relationship between Secondary Stressors and Arrest

Mental Health and Substance Use Disorders

(Table 15 about here)

Hypothesis 4 proposed that the secondary stressors related to mental health and substance use disorders would be positively associated with past-year arrest (path D in the conceptual model). To test this hypothesis I again employed bivariate logistic regression. Table 15 presents these results. Neither of the internalizing disorders (e.g., MDE, PTSD) was significantly associated with past-year arrest. The odds of past-year arrest were over three times higher among women who met lifetime criteria for ASPD compared to women who did not meet criteria (OR= 3.33, *p*= .08). Each of the substance use dependence diagnoses was significantly and positively associated with past-year arrest. Women who met criteria for alcohol dependence were 3.29 times more likely (*p*< .01) to have been arrested in the past year compared to their non-diagnosed counterparts. Additionally, women who were drug dependent were more than four times as likely than women without drug dependence to have been arrested in the previous year (OR= 4.12, *p*< .01).

(Table 16 about here)

Next I conducted a multivariate logistic regression of arrest using the significant mental health and substance use diagnoses from the bivariate analyses (Table 16). Model 1, which includes only ASPD, shows that the relationship between ASPD and arrest approaches statistical significance (OR=3.30, *p*< .08). The inclusion of alcohol dependence disorder in Model 2 rendered the effect of ASPD on arrest nonsignificant.

Controlling for ASPD, women who met criteria for alcohol dependence disorder were three and a half times more likely than women without alcohol dependence to have been arrested in the past year (OR= 3.58, *p*<.01). The final model includes the indicator for drug dependence disorder. Model 3 shows that drug dependence increases the odds of recent arrest 6.20 times (*p*< .01). Overall, I found partial support for Hypothesis 4. Although ASPD and alcohol abuse disorder have direct effects on arrest at the bivariate level, Table 16 shows that much of their influence on arrest is likely explained by drug dependence disorder.

Homelessness Stressors

(Table 17 about here)

Table 17 presents the bivariate logistic regression results when arrest was regressed on each of the homelessness stressors. Hypothesis 5 proposed that each homelessness stressor—victimization while homeless, housing stressors, sleeping outside, and months with homeless episode—would be positively associated with past-year arrest (path E in the conceptual model). Table 17 shows that only two of the homelessness stressors were significantly associated with recent arrest. Each increase in the type of victimization women experienced while homeless was associated with a 59% increase in the odds of past-year arrest (*p*< .001). Women who had slept outside at least once while homeless were over two and a half times more likely than women who had never slept outside to have been arrested in the past year (OR= 2.59, *p*< .05).

(Table 18 about here)

Table 18 presents the multivariate logistic regression results when arrest was regressed on sleeping outside and victimization while homeless. Having slept outside is

associated with significantly increased odds of recent arrest (Model 1). When

victimization while homeless is added to Model 2, however, the effects of a history of

sleeping outside are rendered nonsignificant. Controlling for a history of sleeping outside,

each increase in the count of victimization experienced while homeless is associated with

a 1.52 increase in the odds of arrest ($p < .01$). Overall, the results in Table 18 provide

partial support for Hypothesis 5.

Secondary Stressors as Mediating Variables

(Figures 2 and 3 about here)

(Table 19 about here)

Hypotheses 6 and 7 proposed that the secondary stressors related to mental health,

substance use and homelessness would mediate the relationship between childhood abuse

and recent arrest. According to Baron and Kenny (1986), variables must be significantly

associated with both the independent and dependent variables in order to act as

mediators. Mediation analyses were conducted by comparing the association between the

primary independent variable and the dependent variable before (Path C' in Figures 2-6)

and after (Path C in Figures 2-6) the mediating variable was added to the model, using

Sobel's test. Based on the previous bivariate regression analyses, I tested the effects of

two potential mediators on the relationship between any childhood abuse and arrest: drug

dependence disorder and victimization while homeless. Figures 2 and 3 illustrate the

mediation models that were tested. The nonsignificant p-values for Sobel's z-score

indicate that the inclusion of drug dependence does not explain any statistically

significant portion of the basic relationship between any childhood abuse and arrest, nor

does the inclusion of victimization while homeless (Table 19).

(Figures 4 through 6 about here)

(Table 20 about here)

I also tested the effect of three potential mediators on the relationship between childhood sexual abuse and arrest: drug dependence disorder, victimization while homeless, and history of sleeping outside. Figures 4, 5, 6 illustrate these mediation analyses. Table 20 shows that drug dependence disorder partially mediates the relationship between sexual childhood abuse and arrest (Sobel z-score= 1.87, p= .06). Including drug dependence disorder in the analysis significantly reduced the effect of childhood sexual abuse on arrest. The size of the indirect effect of any childhood abuse on arrest through drug dependence is 1.10. Table 20 also shows that victimization while homeless partially mediates the relationship between sexual childhood abuse and arrest (Sobel z-score= 1.86; p= .06). The relationship between childhood sexual abuse and arrest was significantly reduced in strength upon the inclusion of victimization while homeless. The size of the indirect effect of sexual abuse on arrest through victimization while homeless is 0.26. Sleeping outside did not significantly mediate the relationship between childhood sexual abuse and arrest. Both Hypotheses 6 and 7 were partially supported.

Summary

The purpose of this chapter was twofold: to examine the direct effects of secondary stressors on past-year arrest among homeless women and to test whether these secondary stressors acted as mediators in the focal relationship between childhood abuse and arrest. The secondary stressors were divided into two groups: mental health and substance use disorders and homelessness stressors. Among the mental health and

substance use disorders, only ASPD, alcohol dependence disorder, and drug dependence disorder had significant bivariate effects on arrest. Multivariate analysis revealed that the odds of recent arrest among homeless women were most heavily influenced by drug dependence disorder. Of the four homelessness stressors, only two were significantly associated with arrest at the bivariate level: victimization while homeless and a history of sleeping outside. Mediation analyses showed that a statistically significant portion of the association between childhood sexual abuse was indirect, through drug dependence and through victimization experienced while homeless. The next chapter will examine the role of social support and self-efficacy as potential moderating resources that may protect against arrest.

CHAPTER 7
PROTECTIVE FACTORS

Protective Factors: Direct Effects

(Table 21 about here)

Hypothesis 8 proposed that the potential protective factors in the conceptual model, instrumental social support, emotional social support, and self-efficacy, would be negatively associated with past-year arrest (path F of the conceptual model). Table 21 presents these results. None of the protective factors were significantly associated with past-year arrest, providing no support for Hypothesis 8.

Protective Factors as Moderating Variables

Hypotheses 9 and 10 proposed that social support and self-efficacy would act as moderators in the relationships between the secondary stressors (mental health/substance use disorders and homelessness stressors) and recent arrest (paths G and H of the conceptual model). To test these hypotheses, interaction variables were created for each secondary stressor and potential moderator. Next, arrest was regressed on each secondary stressor, then each secondary stressor and the moderator, and finally each secondary stressor, moderator, and interaction term. None of the interaction terms were significantly associated with arrest, providing no support for Hypotheses 9 and 10.

Summary

Although it was hypothesized that having more people to lean on emotionally and instrumentally, and having a greater sense of self-efficacy would reduce the odds of arrest, none of the protective factors were significantly related to recent arrest at the bivariate level. Additionally, none of the interaction terms were significantly associated

with recent arrest, providing no support for the hypotheses that social support and self-

efficacy would moderate the associations between secondary stressors and arrest.

CHAPTER 8
DISCUSSION AND CONCLUSIONS

The general purpose of this dissertation was to build upon the currently limited body of literature that examines risk and protective factors for criminal justice system involvement among homeless women. More specifically, I situated these risk and protective factors within Pearlin's (Pearlin et al. 1981; Pearlin 1989; 1999) stress process model to predict recent arrest among homeless women. To that end, the goals of this study were three-fold: 1) to examine rates of arrest and childhood abuse among homeless women and to test the focal association between childhood abuse and recent arrest; 2) to examine secondary stressors related to mental health, substance use, and homelessness, and to investigate them as mediators in the association between childhood abuse and arrest; and 3) to identify protective factors related to social support and self-efficacy that may moderate the relationship between secondary stressors and arrest. To facilitate a clear discussion of the results presented in Chapter 7, I have structured this chapter according to the conceptual model. After first discussing the outcome, I will move on to a discussion of the primary stressors and their relationship to the outcome and to secondary stressors. Next I will discuss the direct influence of secondary stressors on arrest and their roles as mediators before moving on to a discussion of the protective factors. Finally, the limitations of this study will be discussed, followed by my concluding thoughts and directions for future research.

Criminal Justice System Involvement

Pearlin and colleagues (1981; Pearlin 1999) proposed that negative outcomes are the result of the convergence of numerous interrelated sources of stress, and that the entire process is embedded within the larger social structure. Although the stress process

model was designed originally to predict decreases in mental health and well-being

(Pearlin et al. 1981; Pearlin 1989; 1999), I proposed that arrest among homeless women

can be conceptualized as the behavioral manifestation of stress, triggered by primary and

secondary stressors that are embedded within the women's marginalized socioeconomic

status in society. One-fifth of the homeless women in the current study had been arrested

in the past year. Prior research, which has not included rates of recent arrest among

homeless women, has shown that lifetime arrest rates among homeless samples range

from 23% to 60% (Caton et al. 2005; Metraux and Culhane 2006; Garland et al. 2010;

Jasinski et al. 2010). Studies of homeless women report that one-fifth to one-half of

homeless women have been arrested or incarcerated at some point during adulthood (Burt

and Cohen 1989; North et al. 1994; Koegel et al. 1995; Jasinski et al. 2010). Thus, an

arrest rate of 20% in the past year alone among the homeless women in the current study

seems to be a substantial amount that warrants further investigation.

Influence of Primary Stressors

Childhood abuse, that by definition occurs early in the life course, fits into the

stress process model as a primary stressor (Pearlin 1989; 1999). Childhood abuse was a

common experience for many of the women in this study, as more than three-quarters had

experienced some physical, verbal, or sexual abuse. The proportion of women in this

study who experienced childhood abuse is much higher than general population estimates

(Sachs-Ericsson et al. 2005). Additionally, rates of specific types of abuse found here

tend to be consistent with, or higher than, previously published estimates from high-risk

samples. For example, the proportion of women who reported childhood physical/verbal

abuse (63%) is towards the high end of the range of rates reported in other data from

homeless women (North et al. 1994; Bassuk et al. 1998). Additionally, the rate of childhood sexual abuse reported here (52%) exceeds rates of childhood sexual abuse reported in prior literature on homeless women (North et al. 1994; D'Ercole and Streuning 1997; Bassuk et al. 1998).

In addition to updating the literature on rates of childhood abuse among homeless women, I proposed that abuse experienced during childhood would be directly associated with arrest in adulthood. Hypothesis 1 was supported as the overall measure of childhood abuse was associated with increased odds of arrest. An examination of the specific forms of abuse, however, revealed that the association between childhood abuse and arrest is likely being driven by the influence of sexual abuse, in that the measure of physical/verbal abuse was not significantly associated with recent arrest. This finding is consistent with past literature that reported a significant correlation between sexual abuse and arrest among homeless women but found no relationship between physical abuse and arrest (Tolomiczenko and Goering 2001). The relationship between childhood sexual abuse and arrest also supports the body of feminist criminological research that proposes pathways to crime are gendered (Widom 1989; Holsinger 2000; Hagan and Foster 2003) and that victimization experiences are especially important to consider in any study of female criminality (Chesney-Lind 1989; Belknap and Holsinger 2006; Belknap 2007).

The stress process model suggests that primary stressors should be associated not only with negative outcomes, but also with the emergence of secondary stressors (Pearlin et al. 1997). I tested two hypotheses regarding the association between primary and secondary stressors. Partial support for Hypothesis 2 and 3 was found in this study, as both physical/verbal and sexual childhood abuse were associated with the emergence of

stressors related to mental illness, substance use, and homelessness. This speaks to the concept of stress proliferation, or the tendency for stress to beget stress in other domains of life (Pearlin 1981; Pearlin et al. 1997).

Mental Illness and Substance Use

It is important to note again that psychiatric disorders are not stressors in and of themselves. Instead, mental illness and substance use diagnoses are proxies for stressors, as they are associated with impairments that may be perceived as stressful. Psychiatric disorders also are associated with both exposure and vulnerability to additional stressful circumstances (Hagan and Foster 2003). Both childhood sexual and physical/verbal abuse were associated with PTSD, supporting numerous findings from prior literature that childhood abuse is a traumatic event with both short- and long-term negative effects (Boney-McCoy and Finklehor 1995; Wheaton 1996; Carlson et al. 1997; for a review see Yehuda, Spertus, and Golier 2001). Of the two types of childhood abuse, only childhood physical/verbal abuse was associated with MDE. It could be that women who experienced verbal abuse internalized those negative messages and developed symptoms associated with depression, such as feelings of worthlessness (Sachs-Ericsson, Verona, Joiner and Preacher 2006). Childhood sexual abuse was associated with drug dependence, consistent with both quantitative (Watts and Ellis 1993; Polusny and Follette 1995; Min et al. 2007) and qualitative (Jasinski et al. 2010; DeHart et al. 2013) research that reports victims of childhood sexual abuse often turn to drugs as a means of coping with traumatic sexual abuse experiences. Although I expected childhood abuse to be associated with problematic alcohol use based on prior literature (Widom and Hiller-Sturmhofel 2001), that was not the case in the current study. I was also surprised that

childhood abuse was not related to ASPD, as prior research indicates childhood abuse

victims are at an increased risk for personality disorders, though this is likely due to

measurement, as not all prior studies used diagnostic criteria for ASPD (Luntz and

Widom 1994; Johnson et al. 2001).

Homelessness Stressors

I also examined a group of stressors unique to the study population that were

related to the women's experiences while homeless. Both childhood sexual and

physical/verbal abuse were associated with increases in the types of victimization women

experienced while homeless. The pattern of victimization predicting subsequent

victimization is something that has been established in prior literature with both non-

homeless (Stein et al. 2002; Messman-Moore and Long 2003; Turner 2010) and homeless

(Tyler, Hoyt, and Whitbeck 2000; Jasinski et al. 2010) samples. Few researchers have

focused on stressors related to women's sleeping and housing circumstances. In the

present study, both types of childhood abuse were associated with a history of sleeping

outside while homeless. Studies of childhood abuse victims often report that girls run

away escape to abuse (Terrell 1997; Kauffman and Widom 1999; Whitbeck and Hoyt

1999; DeHart et al. 2008). Although the present study does not include information about

the onset of the women's first homeless episode, it is plausible that victims of childhood

abuse who left home to escape an abusive environment but did not have street

connections (to shelters, etc.) would be likely to spend at least one night sleeping outside.

Only childhood physical/verbal abuse was associated with increased housing stressors.

Although I did not test the interaction between psychiatric diagnoses and housing

stressors, this could be related to the association between childhood physical/verbal abuse

and MDE, as women who are depressed may be more vulnerable or sensitive to shelter noise levels or overcrowding and therefore more likely to perceive those things as stressful.

Direct Influences of Secondary Stressors and Their Mediated Effects

Mental Illness and Substance Use Disorders: Rates and Direct Effects on Arrest

A sizable proportion of the women in the current study met criteria for lifetime mental illness or substance use disorders. Half of the women in the current study met lifetime criteria for MDE and 40% met criteria for PTSD, compared to 25% and 34% in North and Smith's (1992) work, respectively. The proportion of women in the current study with ASPD is consistent with prior literature that has assessed personality disorders among the homeless (Breakey et al. 1989; North and Smith 1992). Overall, rates of alcohol and drug use disorders in the current study are also consistent with prior literature (North and Smith 1992; Robertson and Winkleby 1996; Whitbeck 2009). What is troubling about the rates of substance use disorders reported here, however, is the high proportion of women who meet criteria for substance *dependence* compared to abuse, as criteria for a dependence diagnosis is more stringent than criteria for a diagnosis of abuse without dependence. Substance dependence signals that the women have decreased functioning and increased impairment compared to women who meet criteria for drug abuse without dependence (APA 2000). Put another way, a sizable proportion of women in the current study have very problematic drug and alcohol addictions.

The theoretical framework suggests that secondary stressors, like primary stressors are directly related to negative outcomes (Pearlin et al. 1981; Pearlin 1989; 1999). Hypotheses 4 and 5 were partially supported, as a number of the secondary

stressors from both the mental health and homelessness domains were associated with increased risk of recent arrest. Multivariate analyses indicated that the exposure and vulnerability associated with having a drug dependence disorder was the strongest correlate of arrest. This finding makes sense both theoretically and empirically for a number of reasons. First, simply possessing drugs is illegal and grounds for arrest. Second, shelters that have a "zero tolerance" policy towards drug and alcohol use will turn away women who appear to be under the influence leaving them little option but to spend their time in public places. Third, drug dependence symptoms (e.g., withdrawal, tolerance, spending a lot of time in pursuit, under the influence, or recovering from the effects of the drug, and continued use despite physical and psychological effects of the drug) impair women's behaviors and functioning to the extent that they draw the attention of bystanders and law enforcement officials (Ferguson et al. 2012).

Homelessness Stressors: Rates and Direct Effects on Arrest

In addition to stressors associated with mental illness and substance use, I also proposed that stressors related to the women's homelessness experiences (e.g., sleeping outside, victimization while homeless, housing stressors, and months with homeless episode) are important to consider in a stress process model of arrest among homeless women. More than 40% of the women had slept outside at some point during an episode of homelessness. Women who use public spaces, such as park benches or alleyways, to sleep or rest run the risk of arrest for misuse of public space (Dachner and Tarasuk 2002; Mitchell 2003). Only a small body of literature has focused specifically on victimization women experience during episodes of homelessness (Grunberg and Eagle 1990; Wenzel et al. 2001; Jasinksi et al. 2010). The current study adds to that body of the literature. On

average, women had experienced one type of victimization during an episode of homelessness. In the multivariate analyses, victimization while homeless emerged as the only homelessness stressor that was significantly correlated with recent arrest. This lends support to Widom's (1989) cycle of violence hypothesis, as victims of childhood abuse are more vulnerable than their non-victimized counterparts to experience subsequent victimization, in this case perpetrated in or around shelters (Grunberg and Eagle 1995; Jasinski 2010) or on the streets (Jasinski 2010). The association between victimization during episodes of homelessness and arrest supports the argument that homelessness itself is a stressful condition (Gory, Ritchey, and Mullis 1990; Goodman et al. 1991; Milburn and D'Ercole 1991).

Mediating Effects

According to the theoretical framework, secondary stressors may also act as intervening variables in the relationship between primary stressors and negative outcomes. That is, the stress associated with childhood abuse may be related to risk of arrest indirectly, through stressors associated with mental illness, substance use, and homelessness. Hypotheses 6 and 7, which proposed mediating effects, were only supported in two instances. Drug dependence disorder and victimization while homeless each explained a significant portion of the relationship between childhood sexual abuse and arrest. This finding indicates that stressors associated with extreme drug use and victimization experiences, developed at least in part from childhood sexual abuse, manifest in criminal justice system involvement. Empirical evidence for the relationship between early trauma, substance use problems, and offending has been documented in feminist criminological literature (Chesney-Lind 1989; Belknap 2007) and research with

homeless young adults (Whitbeck and Hoyt 1999; Chapple, Johnson, and Whitbeck 2004; Chen et al. 2006), but has been less established among samples of homeless adult women.

Moderating Effects

None of the protective factors examined in the current study reduced the likelihood of arrest, as proposed in Hypothesis 8, nor did they moderate the relationship between the secondary stressors and arrest, as proposed in Hypotheses 9 and 10. This could be due to the measurement of social support and self-efficacy. Social support in the current study was measured by asking the women to list the number of people in their lives that *could* provide emotional (i.e., caring, accepting and concerned individuals) and instrumental (i.e., lending money, providing food or shelter) support, rather than the context of such support. It may have been more fruitful to know how many people the women had *actually* turned to for emotional and instrumental social support during episodes of homelessness. Future research would benefit from a deeper examination of the context of social support in the lives of homeless women, as Bassuk (1993) found homeless women's social networks tend to be smaller and less stable compared to the networks of low-income housed women. Perhaps in the present study the people women considered their supporters also were homeless and thus may have been unable to actually provide the type of social support that would buffer the effects of stress and prevent criminal justice system involvement. Additionally, those supporters may not always provide pro-social support. Prior research with homeless populations has shown that, in some cases, members of homeless individuals' social networks may be anti-social influences (Rice, Stein, and Milburn 2008). For example, a woman may count her drug

dealer in amongst the people who lend her money, food, or a place to stay. In addition, it is worth considering that conventional measures of self-efficacy may operate differently for homeless women, as prior research on the moderating effects of self-efficacy has produced mixed findings (see Baron and Hartnagel 2002).

Limitations

This study is not without its limitations, including a small sample size. Although I was able to test the direct, mediating, and moderating effects for separate segments of the conceptual model, the sample size prevented me from being able to test the entire conceptual model at one time. Additionally, a small sample limits the amount of statistical power necessary to detect effects that may be statistically significant in a larger sample. Put another way, having a small sample size increases the chance of making a type II error (Cohen 1992).

The cross-sectional nature of the data is also a limitation that must be recognized, as it prevents me from making causal statements about the relationships among the study variables. Although the variables themselves provide rough temporal ordering, as childhood abuse necessarily occurred before age 18, secondary stressors were measured as "lifetime" occurrences, and arrest was limited to the past year, it is possible that arrest may have preceded the secondary stressors in time. A study using data from the general population, however, indicated that among those with a history of both incarceration and mental illness, onset of psychiatric disorders preceded incarceration in the majority of cases (Schnittiker, Massoglia, and Uggen 2012).

I am also limited in that I am unable also to test associations *between* the secondary stressors. A fruitful area for future research would be to test, for example,

whether mental health or substance use disorders expose women to more stressors while homeless, or whether homelessness stressors lead to the development of mental health and substance use problems.

The measurement of some of the study variables also presents limitations. While I am able to provide a rate of recent arrest among homeless women, I am unable to include contextual information about the types of crimes for which the women were arrested. Prior research has shown that the homeless are often arrested for maintenance and property crimes, rather than violent crimes (Snow, Baker, and Anderson 1989; Greenberg and Rosenheck 2008; Fitzpatrick and Myrstol 2011). I also have no information about the depth of women's involvement in the criminal justice system. That is, I do not know whether they were formally charged or incarcerated as a result of the reported arrest(s).

The measures of childhood abuse used in this study capture the occurrence of abuse but not the context in which the abuse occurred. For example, I am unable to differentiate between women who were victimized once during childhood versus women who experienced chronic abuse. Child abuse research indicates that abuse characteristics, such as age of onset, frequency, duration, severity, use of force, and the relationship between victim and perpetrator, are important factors to consider in examinations of outcomes for child abuse victims (Tyler 2002). Recall bias is also a limitation associated with collecting data about early life events in retrospective studies (Raphael 1987; Hardt and Rutter 2004).

The measure for victimization while homeless captures the range of types of victimization women may have experienced during homeless episodes, but it does not account for the frequency, severity, or chronicity of abuse. Future research using more

contextual measures of victimization while homeless is necessary to further support the finding that victimization while homeless mediates the relationship between childhood abuse and arrest among homeless women.

Finally, the count of number of months in which women experienced at least one episode of homelessness appears to have low validity. The measure served as a proxy for the length of time that women had spent homeless. It is possible, however, that a woman who reported a higher number of months with a homeless episode could have been homeless for less time compared to a women who reported a lower number of months with a homeless episode. For instance, a woman who had been homeless for seven days in six separate months would have reported a "6" for the months with homeless episode variable. This woman would have spent 42 total days homeless. Another woman may have been homeless for 20 days per month in 4 months. Although this woman would have spent 80 total days homeless (more than the first woman), she would have a value of "4" for the months with homeless episode variable. Thus, the current measure appears to be a poor proxy, and a continuous measure of total time homeless, which has been used in prior research (Nyamathi, Leake, and Gelberg 2001; Tyler et al. 2001; McMorris et al. 2002) is most likely a better indicator of time spent homeless.

Conclusions

Despite these limitations, I believe this dissertation makes several important contributions to the study of victimization, mental illness, substance use, and criminal justice system involvement among homeless women. First, it provides recent estimates of childhood abuse, psychiatric disorders, and arrest among homeless women and demonstrates that homeless women are multiply marginalized and victimized across the

life course. Second, it demonstrates that homeless women face stressors that women who are not homeless do not face, such as street victimization and having to sleep outside, that increase homeless women's likelihood of arrest.

Third, this study demonstrates the ongoing criminalization of mental illness and homelessness in U.S. society. The finding that drug dependence disorder and victimization while homeless mediate the relationship between childhood sexual abuse and arrest speaks volumes about this criminalization among homeless women. This is a subgroup of women who were sexually traumatized as children and grew up to develop extreme drug addictions and experience subsequent victimization after becoming homeless. Instead of identifying these women as victims and attempting to connect them to rehabilitative services, we arrest them. Criminalizing homeless women does nothing to address the stressors they face; instead it further removes them from important services. Even if women are not incarcerated, having a criminal arrest record acts as a barrier to future housing and employment (Richie 2001; Caton et al. 2005).

Finally, the current study supports the stress process model as a valid approach to studying risk and protective factors for arrest among homeless women. Stressors experienced early in the life course give rise to stressors in other life domains and lead to maladaptive outcomes. The results from the focal relationship in the study—childhood abuse and arrest—cannot emphasize enough the value of early interventions for victims of childhood abuse. Not only may such interventions prevent subsequent criminal involvement, they may also prevent the development of stressors associated with mental illness, substance use, and homelessness.

Scholars interested in this area of research would benefit from a long-term study of homeless women, as a longitudinal study design would better capture the dynamic nature of homelessness, social support, and stress. As the female segments of both the homeless population and the incarcerated population continue to grow, this dissertation should provide the impetus for future prevention and intervention research.

REFERENCES

American Psychological Association. 2000. *Diagnostic and Statistical Manual of Mental Disorders* (4th Edition Text Revision). Washington DC: Author.

Armenta, Brian E., Les B. Whitbeck, and Mary C. Zanarini. 2012. "Technical Report for the Diagnostic Inventory for DSM-IV Personality Disorders-Standardized: Development, Evaluation, and Preliminary Estimates for Adult Homeless Women." Lincoln, NE: University of Nebraska-Lincoln.

Avison, William R. 1999. "The Impact of Mental Illness on the Family." In Carol S. Aneshensel and Jo C. Phelan (Eds.), *Handbook of the Sociology of Mental Health* (pp. 495-518). New York: Plenum.

Baron, Reuben M. and David A. Kenny. 1986. "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations." *Journal of Personality and Social Psychology 51*(6): 1173-1182.

Baron, Stephen W. and Timothy F. Hartnagel. 2002. "Street Youth and Labor Market Strain." *Journal of Criminal Justice 30*: 519-533.

Bassuk, Ellen L. 1993. "Social and Economic Hardships of Homeless and Other Poor Women." *American Journal of Orthopsychiatry 63*(3): 340-347.

Bassuk, Ellen L. and Lynn Rosenberg. 1988. "Why Does Family Homelessness Occur? A Case-Control Study." *American Journal of Public Health 78*(7): 783-788.

Bassuk, Ellen L., Sharon Melnick, and Angela Browne. 1998. "Responding to the Needs of Low-Income and Homeless Women Who Are Survivors of Family Violence." *Journal of the American Medical Women's Association 53*(2): 57-64.

Baumohl, Jim, ed. 1996. *Homelessness in America.* Phoenix, AZ: Oryx Press.

Belknap, Joanne. 2007. *The Invisible Woman: Gender, Crime, and Justice.* Belmont, CA: Thomson Wadsworth Publishing Company.

Belknap, Joanne and Kristi Holsinger. 2006. "The Gendered Nature of Risk Factors for Delinquency." *Feminist Criminology 1*(1): 48-71.

Bernard, Thomas J. 1990. "Angry Aggression among the "Truly Disadvantaged." *Criminology 28*: 73-96.

Breakey, Williiam R., Pamela J. Fischer, Morton Kramer, Gerald Nestadt, Alan J. Romanoski, Alan Ross, Richard M. Royall, and Oscar C. Stine. 1989. "Health and Mental Health Problems of Homeless Men and Women in Baltimore." *Journal of the American Medical Association 262*(10): 1352-1357.

Briere, John & Diana M. Elliott. 2003. "Prevalence and Psychological Sequelae of Self-Reported Childhood Physical and Sexual Abuse in a General Population Sample of Men and Women." *Child Abuse and Neglect 27*(10): 1205-1222.

Burnam, M. Audrey, Judith A. Stein, Jacqueline M. Golding, Judith M. Siegel, Susan B. Sorenson, Alan B. Forsythe and Cynthia A. Telles. 1988. "Sexual Assault and Mental Disorders in a Community Population." *Journal of Consulting and Clinical Psychology 56*(6): 843-850.

Burt, Martha R. 1996. "Homelessness: Definitions and Counts." Pp. 15-23 in *Homelessness in America,* edited by J. Baumohl. Phoenix: Oryx Press.

Burt, Martha R. and Barbara E. Cohen. 1989. "America's Homeless: Numbers, Characteristics, and Programs that Serve Them." *Urban Institute Report 89-3.* Washington DC: Urban Institute Press.

Burt, Martha R., Laudan Y. Aron, Toby Douglas, Jesse Valente, Edgar Lee, and Britta

Iwan. 1999. "Homelessness: Programs and the People They Serve. Findings of the

National Survey of Homeless Assistance Providers and Clients." Washington DC:

Urban Institute Press.

Butterfield, Marian I., Paula G. Panzer, and Catherine A. Forneris. 1999. "Victimization

of Women and its Impact on Assessment and Treatment in the Psychiatric

Emergency Setting." *Emergency Psychiatry 22*(4): 875-896.

Cale, Ellison M. and Scott O. Lilienfeld. 2002. "Sex Differences in Psychopathy and

Antisocial Personality Disorder: A Review and Integration." *Clinical Psychology

Review 22*: 1179-1207.

Carlson, Eve B., Lita Furby, Judith Armstrong, and Jennifer Shlaes. 1997. "A Conceptual

Framework for the Long-Term Psychological Effects of Traumatic Childhood

Abuse." *Child Maltreatment 2*(3): 272-295.

Caspi, Avshalom, Daryl J. Bem, and Glen H. Elder Jr. 1989. "Continuities and

Consequences of Interactional Styles across the Life Course." *Journal of

Personality 57*: 375-406.

Caton, Carol L.M., Boanerges Dominguez, Bella Schanzer, Deborah S. Hasin, Patrick E.

Shrout, Alan Felix, Hunter McQuiston, Lewis A. Opler, and Eustace Hsu. 2005.

"Risk Factors for Long-Term Homelessness: Findings from a Longitudinal Study

of First-Time Homeless Single Adults." *American Journal of Public Health

95*(10): 1753-1759.

Chapple, Constance L., Kurt D. Johnson, and Les B. Whitbeck. 2004. "Gender and Arrest among Homeless and Runaway Youth: An Analysis of Background, Family, and Situational Factors." *Youth Violence and Juvenile Justice 2*(2): 12-147.

Chen, X, Lisa Thrane, Les B. Whitbeck, and Kurt Johnson. 2006. "Mental Disorders, Comorbidity, and Postrunaway Arrests among Homeless and Runaway Adolescents." *Journal of Research on Adolescence 16*: 379-402.

Chesney-Lind, Meda. 1989. "Girls' Crime and Woman's Place: Toward a Feminist Model of Female Delinquency." *Crime & Delinquency 35*(1): 5-29.

Clark, Robin E., Susan K. Ricketts, and Gregory J. McHugo. 1999. "Legal System Involvement and Costs for Persons in Treatment for Severe Mental Illness and Substance Use Disorders." *Psychiatric Services 50*(5): 641-647.

Colvin, Mark, Francis T. Cullen, and Thomas Vander Ven. 2002. "Coercion, Social Support, and Crime: An Emerging Theoretical Consensus." *Criminology 40*(1): 19-42.

Constantine, Robert, Ross Andel, John Petrila, Marion Becker, John Robst, Gregory Teague, Timothy Boaz, and Andrew Howe. 2010. "Characteristics and Experiences of Adults with a Serious Mental Illness Who were Involved in the Criminal Justice System." *Psychiatric Services 61*(5): 451-457.

Constantine, Robert J., John Petrila, Ross Andel, Eugena M. Givens, Marion Becker, John Robst, Richard Van Dorn, Tim Boaz, Greg Teague, Diane Haynes, and Andrew Howe. 2010. "Arrest Trajectories of Adult Offenders with a Serious Mental Illness." *Psychology, Public Policy, and Law 16*(4): 319-339.

Cox, Judith F., Pamela C. Morschauser, Steven Banks, and James L. Stone. 2001. "A

    Five-Year Population Study of Persons Involved in the Mental Health and Local

    Correctional Systems: Implications for Service Planning." *Journal of Behavior*

    Health Services and Research 28(2): 177-187.

Cullen, Francis T. 1994. "Social Support as an Organizing Concept for Criminology:

    Presidential Address to the Academy of Criminal Justice Sciences." *Justice*

    Quarterly 11: 527-559.

Dachner, Naomi and Valerie Tarasuk. 2002. "Homeless 'Squeegee Kids': Food

    Insecurity and Daily Survival." *Social Science and Medicine* 54(7): 1039-1049.

Davies-Netzley, Sally, Michael S. Hurlburt, and Richard L. Hough. 1996. "Childhood

    Abuse as a Precursor to Homelessness for Homeless Women with Severe Mental

    Illness." *Violence and Victims 11*(2): 129-142.

DeHart, Dana D. 2008. "Pathways to Prison: Impact of Victimization in the Lives of

    Incarcerated Women." *Violence Against Women 14*: 1362-1381.

DeHart, Dana D., Shannon Lynch, Jaonne Belknap, Priscilla Dass-Brailsford and Bonnie

    Green. 2013. "Life History Models of Female Offending: The Roles of Serious

    Mental Illness and Trauma in Women's Pathways to Jail." *Psychology of Women*

    Quarterly 38(1): 138-151.

D'Ercole, Ann and Elmer Streuning. 1990. "Victimization among Homeless Women:

    Implications for Service Delivery." *Journal of Community Psychology 18*(2): 141-

    152.

Dodge, Kenneth A., John E. Bates, and Gregory S. Pettit. 1990. "Mechanisms in the

    Cycle of Violence." *Science 250*(4988): 1678-1683.

Dodge, Kenneth A., Gregory S. Pettit, John E. Bates, and Ernest Valente. 1995. "Social Information-Processing Patterns Partially Mediate the Effect of Early Physical Abuse on Later Conduct Problems." *Journal of Abnormal Psychology 104*(4): 632-643.

Donley, Amy. 2008. "The Perception of Homeless People: Important Factors in Determining Perceptions of the Homeless as Dangerous." PhD Dissertation, Department of Sociology, University of Central Florida.

Duncan, Renae D. Benjamin E. Saunders, Dean G. Kilpatrick, Rochelle F. Hanson, and Heidi S. Resnick. 1996. "Childhood Physical Assault as a Risk Factor for PTSD, Depression, and Substance Use: Findings from a National Survey." *American Journal of Orthopsychiatry 66*(3): 437-448.

Eberle, Margaret, Deborah Kraus, Luba Serge, and David Hulchanski. 2000. *The Relationship between Homelessness and the Health, Social Services and Criminal Justice Systems: A Review of the Literature. Vol. 1 Homelessness—Causes and Effects.* Vancouver, B.C.: British Columbia Ministry of Social Development and Economic Security.

Eitle, David R. and R. Jay Turner. 2003. "Stress Exposure, Race, and Young Adult Male Crime." *Sociological Quarterly 44*(2): 243-269.

Elder, Glen H. 1994. "Time, Agency, and Social Change: Perspectives on the Life Course." *Social Psychology Quarterly 57*: 4-15.

Elder, Glen H. Jr. 1998. "Life Course and Human Development." Pp. 939-991 in *Handbook of Child Psychology*, edited by W. Damon. New York: Wiley.

Elder, Glen H., Jr., Monica K. Johnson and Robert Crosnoe. 2003. "The Emergence and Development of Life Course Theory." Pp. 3-19 in *Handbook of the Life Course*, edited by J.T. Mortimer and M.J. Shanahan. New York: Kluwer Academic/Plenum Publishers.

Eshbaugh, Elaine A. 2010. "Brief Report: Does Mastery Buffer the Impact of Stress on Depression among Low-Income Mothers?" *Journal of Poverty 14*(2): 237-244.

Fagan, Abigail A. 2001. "The Gender Cycle of Violence: Comparing the Effects of Child Abuse and Neglect on Criminal Offending for Males and Females." *Violence and Victims 16*(4): 457-474.

Ferguson, Kristin M., Kimberly Bender, Sanna J. Thompson, Bin Xie, and David Pollio. 2012. "Exploration of Arrest Activity among Homeless Young Adults in Four U.S. Cities." *Social Work Research 36*(3): 233-238.

Finkelhor, David. 1990. "Early and Long-Term Effects of Child Sexual Abuse: An Update." *Professional Psychology: Research and Practice 21*(5): 325-330.

Fischer, Pamela J. 1991. "Alcohol, Drug abuse, and Mental Health Problems among Homeless Persons: A Review of the Literature, 1980-1990." Rockville, MD: National Institute on Alcohol Abuse and Alcoholism.

Fischer, Pamela J. and William R. Breakey. 1991. "The Epidemiology of Alcohol, Drugs, and Mental Disorders among Homeless Persons." *American Psychologist 46*(11): 1115-1128.

Fitzpatrick, Kevin M. and Brad Myrstol. 2011. "The Jailing of America's Homeless: Evaluating the Rabble Management Thesis." *Crime and Delinquency 57*(2): 271-297.

Frost, Natasha, Judith Greene and Kevin Pranis. 2006. "The Punitiveness Report. Hard

Hit: The Growth in the Imprisonment of Women, 1977-2004." New York:

Institute on Women and Criminal Justice.

Gans, Herbert. 1995. *The War against the Poor: The Underclass and Anti-Poverty*

Policy. New York: Basic.

Garland, Tammy S., Tara Richards, and Mikaela Cooney. 2010. "Victims Hidden in Plain

Sight: The Reality of Victimization among the Homeless." *Criminal Justice*

Studies 23(4): 285-301.

Gelberg, Lillian, Lawrence S. Linn, and Barbara D. Leake. 1988. "Mental Health,

Alcohol and Drug Use, and Criminal History among Homeless Adults." *American*

Journal of Psychiatry 145: 191-196.

Glaser, Jean-Paul, Jim Van Os, Piet J.M. Portegijs, and Inez Myin-Germeys. 2006.

"Childhood Trauma and Emotional Reactivity to Daily Life Stress in Adult

Frequent Attenders of General Practitioners." *Journal of Psychosomatic Research*

61(2): 229-236.

Glasheen, Cristie, Sarra L. Hedden, Karry A. Kroutil, Michael R. Pemberton, and Ingrid

Goldstrom. 2012. "Past Year Arrest among Adults in the United States:

Characteristics of and Association with Mental Illness and Substance Use."

Rockville, MD: Substance Abuse and Mental Health Services Administration.

Retrieved from http://www.samhsa.gov/data/2k12/DataReview/DR008/CBHSQ-

datareview-008-arrests-2012.htm

Goodman, Lisa, Leonard Saxe, and Mary Harvey. 1991. "Homelessness as Psychological

Trauma." *American Psychologist 46*(11): 1219-1225.

Greenberg, Robert A. and Robert A. Rosenheck. 2008. "Jail Incarceration, Homelessness, and Mental Health: A National Study." *Psychiatric Services 59*: 170-177.

Grunberg, Jeffrey and Paula F. Eagle. 1990. "Shelterization: How the Homeless Adapt to Shelter Living." *Psychiatric Services 41*(5): 521-525.

Hardt, Jochen and Michael Rutter. 2004. "Validity of Adult Retrospective Reports of Adverse Childhood Experiences: Review of the Evidence." *Child Psychology and Psychiatry 45*(2): 260-273.

Hartley, Herman O. 1962. "Multiple Frame Surveys." *Proceedings of the Social Statistics Section, American Statistical Association 19*(6): 203-206.

Hartwell, S. 2003. "Short-Term Outcomes for Offenders with Mental Illness Released from Incarceration." *International Journal of Offender Therapy and Comparative Criminology 47*: 145-158.

Holsinger, Kristi. 2000. "Feminist Perspectives on Female Offending: Examining Real Girls' Lives." *Women and Criminal Justice 12*(1): 23-51.

Horowitz, Lisa A., Frank W. Putnam, Jennie G. Noll, and Penelope K. Trickett. 1997. "Factors Affecting Utilization of Treatment Services by Sexually Abused Girls." *Child Abuse and Neglect 21*(1): 35–48.

Houser, Kimberly A., Steven Belenko, and Pauline K. Brennan. 2012. "The Effects of Mental Health and Substance Abuse Disorders on Institutional Misconduct among Female Inmates." *Justice Quarterly 29*(6): 799-828.

Iachan, Ronaldo and Michael L. Dennis. 1993. "A Multiple Frame Approach to Sampling the Homeless and Transient Population." *Journal of Official Statistics 9*(4): 747-764.

IBM Corp. Released 2012. *IBM SPSS Statistics for Windows, Version 21.0.* Armonk, NY: IBM Corp.

James, Doris J. 2004. "Profile of Jail Inmates, 2002: Bureau of Justice Statistics Special Report" NCJ 201932. Washington DC: Bureau of Justice Statistics.

James, Doris J. and Lauren E. Glaze. 2006. "Mental Health Problems of Prison and Jail Inmates: Bureau of Justice Statistics Special Report." NCJ 213600. Washington DC: Bureau of Justice Statistics.

Jasinski, Jana L., Jennifer K. Wesely, Elizabeth E. Mustaine, and James D. Wright. 2007. "Childhood abuse as a Precursor to Violence among Adult Homeless Women." Pp. 182-195 in *Child Poverty in America Today,* edited by B.A. Arrighi and D.J. Maume. Westport, CT: Praeger Publishers.

Jasinski, Jana L., Jennifer K. Wesely, James D. Wright, and Elizabeth E. Mustaine. 2010. *Hard Lives, Mean Streets; Violence in the Lives of Homeless Women.* Lebanon, NH: Northeastern University Press.

Johnson, Jeffrey G., Patricia Cohen, Elizabeth M. Smailes, Andrew E. Skodol, Jocelyn Brown, and John M. Oldham. 2001. "Childhood Verbal Abuse and Risk for Personality Disorders During Adolescence and Early Adulthood." *Comprehensive Psychiatry 42*(1): 16-23.

Jose, Paul E. 2013. *Doing Statistical Mediation and Moderation.* New York: Guilford Press.

Kessler, Ronald C. 2004. "The Epidemiology of Dual Diagnosis." *Biological Psychiatry 56*(10): 730-737.

Kessler, Ronald C, Patricia Berglund, Olga Demler, Robert Jin, Kathleen R. Merikangas, and Ellen E. Walters. 2005. "Lifetime Prevalence and Age-Of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication." *Archives of General Psychiatry 62*(6): 593-602.

Kessler, Ronald C., Wai Tat Chiu, Olga Demler, and Ellen E. Walters. 2005. "Prevalence, Severity, and Comorbidity of 12-Month DSM-IV Disorders in the National Comorbidity Survey Replication." *Archives of General Psychiatry 62*(6): 617-627.

Klitzing, Gail Wolf. 2004. "Women Living in Homeless Shelters: Stress, Coping, and Leisure." *Journal of Leisure Research 36*(4): 483-512.

Koegel, Paul, M. Audrey Burnam, and Sally C. Morton. 1996. "Enumerating Homeless People: Alternative Strategies and their Consequences." *Evaluation Review 20*(4): 378-403.

Koegel, Paul, Elan Melamid, and M. Audrey Burnam. 1995. "Childhood Risk Factors for Homelessness among Homeless Adults." *American Journal of Public Health 85*(12): 1642-1649.

Kort-Butler, Lisa A., Kimberly A. Tyler, and Lisa A. Melander. 2011. "Childhood Maltreatment, Parental Monitoring, and Self-Control among Homeless Young Adults: Consequences for Negative Social Outcomes." *Criminal Justice and Behavior 38*(12): 1244-1264.

Kruttschnitt, Candace. 2010. "The Paradox of Women's Imprisonment." *Daedalus 139*(3): 32-42.

Kushel, Margot B., Judith A. Hahn, Jennifer L. Evans, David R. Bangsberg, and Andrew

    R. Moss. 2005. "Revolving Doors: Imprisonment among the Homeless and

    Marginally Housed Population." *American Journal of Public Health 95*(10):

    1747-1752.

Lake, Elise S. 1995. "Offenders Experiences of Violence: A Comparison of Male and

    Female Inmates as Victims." *Deviant Behavior 16*(3): 269-290.

Lamb, H. Richard, Linda E. Weinberger, and Bruce H. Gross. 2004. "Mentally Ill

    Persons in the Criminal Justice System: Some Perspectives." *Psychiatric*

    Quarterly 75(2): 107-126.

Lee, Barrett A., Kimberly A. Tyler, and James D. Wright. 2010. "The New Homeless

    Revisited." *Annual Review of Sociology 36*: 501-521.

Luntz, Barbara K. and Cathy Spatz Widom. 1994. "Antisocial Personality in Abused and

    Neglected Children Grown Up." *American Journal of Psychiatry 151*(5): 670-

    674.

MacMillan, Ross. 2001. "Violence and the Life Course: The Consequences of

    Victimization for Personal and Social Development." *Annual Review of Sociology*

    27: 1-22.

McClellan, Dorothy S. David Farabee, and Ben M. Crouch. 1997. "Early Victimization,

    Drug Use, and Criminality: A Comparison of Male and Female Prisoners."

    Criminal Justice and Behavior 24(4): 455-476.

McMorris, Barabara J., Kimberly A. Tyler, Les B. Whitbeck, and Dan R. Hoyt. 2002.

    "Familial and "On-the-Street" Risk Factors Associated with Alcohol Use among

Homeless and Runaway Adolescents." *Journal of Studies on Alcohol and Drugs 63*(1): 34-43.

McNiel, Dale E., Renee L. Binder, and Jo C. Robinson. 2005. "Incarceration Associated with Homelessness, Mental Disorder, and Co-Occurring Substance Use." *Psychiatric Services 56*(7): 840-846.

Meadows-Oliver, Mikki. 2003. "Mothering in Public: A Meta-Synthesis of Homeless Women with Children Living in Shelters." *Journal for Specialists in Pediatric Nursing 8*(4): 130-136.

Metraux, Stephen and Dennis P. Culhane. 2006. "Recent Incarceration History among a Sheltered Homeless Population." *Crime and Delinquency 52*(3): 504-517.

Metraux, Stephen, Caterina G. Roman, and Richard S. Cho. 2007. "Incarceration and Homelessness." Toward Understanding Homelessness: The 2007 National Symposium on Homelessness Research. Retrieved September 12, 2013 (http://aspe.hhs.gov/hsp/homelessness/symposium07/metraux/index.htm).

Milburn, Norweeta and Ann D'Ercole. 1991. "Homeless Women: Moving Towards a Comprehensive Model." *American Psychologist 46*(11): 1161-1169.

Mitchell, Don. 2003. *The Right to the City: Social Justice and the Fight for Public Space.* New York, NY: The Guilford Press.

Min, Meeyoung, Kathleen Farkas, Sonia Minnes and Lynn T. Singer. 2007. "Impact of Childhood Abuse and Neglect on Substance Use and Psychological Distress in Adulthood." *Journal of Traumatic Stress 20*(5): 833-844.

National Law Center on Homelessness and Poverty and the National Coalition for the Homeless. 2009. *Homes Not Handcuffs: The Criminalization of Homelessness in*

U.S. Cities. Retrieved September 12, 2013

(http://www.nationalhomeless.org/publications/crimreport/index.html).

Norman, Rosana E., Munkhtseteg Byambaa, Rumna De, Alexander Butchart, James

Scott, and Theo Vos. 2012. "The Long-Term Health Consequences of Child

Physical Abuse, Emotional Abuse, and Neglect: A Systematic Review and Meta-

Analysis." *PLoS Medicine 9*: 450-461.

North, Carol S. and Elizabeth M. Smith. 1992. "Posttraumatic Stress Disorder among

Homeless Men and Women." *Hospital and Community Psychiatry 43*(10): 1010-

1016.

North, Carol S., Elizabeth M. Smith, and Edward L. Spitznagel. 1994."Violence and the

Homeless: An Epidemiological Study of Victimization and Aggression." *Journal

of Traumatic Stress 7*(1): 95-110.

North, Carol S. and Elizabeth M. Smith. 1993. "A Comparison of Homeless Men and

Women: Different Populations, Different Needs." *Community Mental Health

Journal 29*(5): 423-431.

Nyamathi, Adeline M., Barbara Leake, and Lillian Gelberg. 2001. "Sheltered versus

Nonsheltered Homeless Women: Differences in Health, Behavior, Victimization,

and Utilization of Care." *Journal of General Internal Medicine 15*(8): 565-572.

Pearlin, Leonard I. 1989. "The Sociological Study of Stress." *Journal of Health and

Social Behavior 30*(3): 241-256.

Pearlin, Leonard I. 1999. "The Stress Process Revisited: Reflections on Concepts and

Their Interrelationships." Pp. 395-415 in *Handbook of the Sociology of Mental

Health,* edited by C.S. Aneshensel and J.C. Phelan. New York: Plenum.

Pearlin, Leonard I., Carol S. Aneshensel, and Allen J. LeBlanc. 1997. "The Forms and

Mechanisms of Stress Proliferation: The Case of AIDS Caregivers." *Journal of

Health and Social Behavior 22*: 337-356.

Pearlin, Leonard I., Elizabeth G. Menaghan, Morton A. Lieberman, and Joseph T.

Mullen. 1981. "The Stress Process." *Journal of Health and Social Behavior 22*(4):

337-356.

Pedhazur, Elazar J. 1997. *Multiple Regression in Behavioral Research: Explanation and

Practice.* Fort Worth, TX: Harcourt Brace College Publishers.

Piliavin, Irving, Bradley R. Entner Wright, Robert D. Mare, and Alex H. Westerfelt.

1996. "Exits from and Returns to Homelessness." *Social Science Review 70*(1):

33-57.

Polusny, Melissa A. and Victoria M. Follette. 1995. "Long-Term Correlates of Child

Sexual Abuse: Theory and Review of Empirical Literature." *Applied and

Preventative Psychology 4*: 143-166.

Putnam, Frank W. 2002. "Ten-Year Research Update Review: Child Sexual Abuse."

Journal of the American Academy of Child and Adolescent Psychiatry 42(2): 269-

278.

Raphael, Karen. 1987. "Recall Bias: A Proposal for Assessment and Control."

International Journal of Epidemiology 16: 167-170.

Rice, Eric, Judith A. Stein, and Norweeta Milburn. 2008. "Countervailing Social

Network Influences on Problem Behaviors among Homeless Youth." *Journal of

Adolescence 31*(5): 625-639.

Richie, Beth E. 2001. "Challenges Incarcerated Women Face as They Return to Their

 Communities: Findings from Life History Interviews." *Crime and Delinquency*

 47(3): 368-389.

Robertson, Marjorie J. and Marilyn A. Winkleby. 1996. "Mental Health Problems of

 Homeless Women and Differences across Subgroups." *Annual Review of Public*

 Health 17: 311-336.

Rossi, Peter H., Gene A. Fisher, and Georgianna Willis. 1986. *The Condition of the*

 Homeless in Chicago. Chicago: National Opinion Research Center.

Rutter, Micahel, Judy Dunn, Robert Plomin, Emily Simonoff, Andrew Pickels, Barbara

 Maughan, Johan Ormel, Joanne Meyer, and Lindon Eaves. 1997. "Integrating

 Nature and Nurture: Implications of Person-Environment Correlations and

 Interactions for Developmental Psychology." *Developmental and*

 Psychopathology 9: 335-364.

Sachs-Ericsson, Natalie, Dan Blazer, E. Ashby Plant, and Bruce Arnow. 2005.

 "Childhood Sexual and Physical Abuse and the 1-Year Prevalence of Medical

 Problems in the National Comorbidity Survey." *Health Psychology 24*(1): 32-40.

Sachs-Ericsson, Natalie, Edelyn Verona, Thomas Joiner, and Kristopher J. Preacher.

 2006. "Parental Verbal Abuse and the Mediating Role of Self-Criticism in Adult

 Internalizing Disorders." *Journal of Affective Disorders 93*: 71-78.

Salisbury, Emily J. and Patrica Von Voorhis. 2009. "Gendered Pathways: A Quantitative

 Investigation of Women Probationers' Pathways to Incarceration." *Criminal*

 Justice and Behavior 36(6): 541-566.

Sapolsky, Robert M. 2004. *Why Zebras Don't Get Ulcers.* New York: St. Martin's Griffen.

Schnittiker, Jason, Michael Massoglia, and Christopher Uggen. 2012. "Out and Down: Incarceration and Psychiatric Disorders." *Journal of Health and Social Behavior 53*: 448-464.

Sermons, M. William and Peter Witte. 2011. "State of Homelessness in America: A Research Report of Homelessness." Washington DC: National Alliance to End Homelessness.

Siegel, Jane A. and Linda M. Williams. 2003. "The Relationship between Child Sexual Abuse and Female Delinquency and Crime: A Prospective Study." *Journal of Research in Crime and Delinquency 40*(1): 71-94.

Simpson, Sally S., Jennifer L. Yahner, and Laura Dugan. 2008. "Understanding Women's Pathways to Jail: Analysing the Lives of Incarcerated Women." *The Australian and New Zealand Journal of Criminology 41*(1): 84-108.

Smith, Elizabeth M., Carol S. North, and Edward L. Spitznagel. 1993. "Alcohol, Drugs, and Psychiatric Comorbidity among Homeless Women: An Epidemiological Study." *Journal of Clinical Psychiatry 54*(3): 82-87.

Smith, Carolyn and Terence P. Thornberry. 1995. The Relationship between Childhood Maltreatment and Adolescent Involvement in Delinquency. *Criminology 33*(4): 451–481.

Sobel, Michael E. 1982. "Asymptotic Intervals for Indirect Effects in Structural Equation Models." *Sociological Methodology 13*: 290-312.

Sousa, Cindy, Todd I. Herrenkohl, Carrie A. Moylan, Emiko A. Tajima, J. Bart Klika,
Roy C. Herrenkohl, and M. Jean Russo. 2010. "Longitudinal Study on the Effects
of Child Abuse and Children's Exposure to Domestic Violence, Parent-Child
Attachments, and Antisocial Behavior in Adolescence." *Journal of Interpersonal
Violence 26*(1): 111–136.

StataCorp. 2009. *Stata Statistical Software: Release 11*. College Station, TX: StataCorp
LP.

Stein, Judith A., Jacqueline M. Golding, Judith M. Siegel, M. Audrey Burnham, and
Susan B. Sorenson. 1988. "Long-term Psychological Sequelae of Child Sexual
Abuse: The Los Angeles Epidemiologic Catchment Area Study." Pp. 135-154 in
Lasting Effects of Child Sexual Abuse, edited by G. Wyatt and G. Powell.
Newbury Park, CA: Sage.

Stein, Judith A., Michelle Burden Leslie, and Adeline Nyamathi. 2002. "Relative
Contributions of Parent Substance Use and Childhood Maltreatment to Chronic
Homelessness, Depression, and Substance Abuse Problems among Homeless
Women: Mediating Roles of Self-Esteem and Abuse in Adulthood."*Child Abuse
and Neglect, 26*: 1011-1027.

Sudman, Seymour, Monroe G. Sirken, and Charles D. Cowan. 1988. "Sampling Rare and
Elusive Populations." *Science 240*(4855): 991-996.

Swartz, James A. and Aruther J. Lurigio. 2007. "Serious Mental Illness and Arrest: The
Generalized Mediating Effect of Substance Use." *Crime and Delinquency 53*(4):
581-604.

Taylor, Kathryn M. and Louise Sharpe. 2008. "Trauma and Post-Traumatic Stress

 Disorder among Homeless Adults in Sydney." *Australian and New Zealand*

 Journal of Psychiatry 42: 206-213.

Taylor, Sshelley E. and Lisa G. Aspinwall. 1996. "Mediating and Moderating Processes

 in Psychosocial Stress: Appraisal, Coping, Resistance, and Vulnerability." Pp. 71-

 110 in *Psychosocial Stress: Perspectives on Structure, Theory, Life Course, and*

 Methods, edited by H.B. Kaplan. San Diego, CA: Academic Press.

Teplin, Linda A., Karen M. Abram, and Gary M. McClelland. 1996. "Prevalence of

 Psychiatric Disorders among Incarcerated Women: Pretrial Jail Detainees."

 Archives of General Psychiatry 53(6): 505-512.

Thoits, Peggy A. 2010. "Stress and Health: Major Findings and Policy Implications."

 Journal of Health and Social Behavior 51(1): S41-S53.

Thoits, Peggy A. 2011. "Mechanisms Linking Social Ties and Support to Physical and

 Mental Health." *Journal of Health and Social Behavior 52*(2):145-161.

Tolomieczenko, George and Paula Goering. 2001. "Gender Differences in Legal

 Involvement among Homeless Shelter Users." *International Journal of Law and*

 Psychiatry 24: 583-593.

Torrey, E. Fuller, Aaron D. Kennard, Don Eslinger, Richard Lamb and James Pavle.

 2010. *More Mentally Ill Persons are in Jails and Prisons than Hospitals: A*

 Survey of the States. Arlington, VA: Treatment Advocacy Center.

Turner, Heather A. 2010. "Stress Process Applications of Child Victimization Research."

 Pp. 207-228 in *Advances in the Conceptualization of the Stress Process: Essays in*

Honor of Leonard I. Pearlin, edited by W.R. Avison, C.S. Aneshensel, S. Schieman, and B. Wheaton. New York: Springer.

Turner, R. Jay and J. Blake Turner. 1999. "Social Integration and Support." Pp. 301-320 in *Handbook of the Sociology of Mental Health*, edited by C.S. Aneshensel and J.C. Phelan. New York: Plenum.

Tyler, Kimberly A., Dan R. Hoyt, Les B. Whitbeck, and Ana Mari Cauce. 2001. "The Impact of Childhood Sexual Abuse on Later Sexual Victimization among Runaway Youth." *Journal of Research on Adolescence 11*(2): 151-176.

U.S. Conference of Mayors. 2012. "Hunger and Homelessness Survey." Retrieved September 16, 2013 from (http://usmayors.org/pressreleases/uploads/2012/1219-report-HH.pdf).

U.S. Department of Housing and Urban Development. 1995. "Stewart B. McKinneyHomeless Programs." Retrieved September 16, 2013 (http://www.huduser.org/portal/publications/homeless/mckin/intro.html).

Vranceau, Ana-Maria, Stevan E. Hobfoll, and Robert J. Johnson. 2007. "Child Multi-Type Maltreatment and Associated Depression and PTSD Symptoms: The Role of Social Support and Stress." *Child Abuse and Neglect 31*(1): 71-84.

Weissmann, Tiffany and Louise Silvern. 1994. "Parenting and Family Stress as Mediators of the Long-Terms Effects of Child Abuse." *Child Abuse and Neglect 18*(5): 439-453.

Wenzel, Suzanne L., Paul Koegel, and Lillian Gelberg. 2000. "Antecedents of Physical and Sexual Victimization among Homeless Women: A Comparison to Homeless Men." *American Journal of Community Psychology 28*(3): 367-390.

Wheaton, Blair. 1996. "The Domains and Boundaries of Stress Concepts." Pp. 29-58 in
    Psychosocial Stress: Trends in Theory and Research, edited by H.B. Kaplan. New
    York: Academic Press.

Whitbeck, Les B. 2009. *Mental Health and Emerging Adulthood among Homeless Young
    People*. New York: Taylor and Francis.

Whitbeck, Les B. and Dan R. Hoyt. 1999. *Nowhere to Grow: Homeless and Runaway
    Adolescents and Their Families*. New York: Aldine de Gruyter.

Whitbeck, Les B., Dan R. Hoyt, Kurt D. Johnson, and Xiaojin Chen. 2007.
    "Victimization and Posttraumatic Stress Disorder among Runaway and Homeless
    Adolescents." *Violence and Victims 22*(6): 721-734.

Whitbeck, Les B., Dan R. Hoyt, and Kevin Yoder. 1999. "A Risk-Amplification Model
    of Victimization and Depressive Symptoms among Runaway and Homeless
    Adolescents." *American Journal of Community Psychology 27*: 292-296.

Widom, Cathy S. 1989. "Child Abuse, Neglect, and Violent Criminal Behavior."
    Criminology 27(2): 251-271.

Widom, Cathy S. 1999. "Posttraumatic Stress Disorder in Abused and Neglected
    Children Grown Up." *American Journal of Psychiatry 156*: 1223–1229.

Widom, Cathy .S. 2000. "Understanding the Consequences of Childhood abuse." Pp.
    339-361 in *Treatment of Child Abuse*, edited by R.M. Reece. Baltimore, MD:
    John Hopkins University Press.

Wolfe, David A., Katreena Scott, Christine Wekerle, and Anna-Lee Pittman. 2001.
    "Child Maltreatment: Risk of Adjustment Problems and Dating Violence in

Adolescence." *Journal of the American Academy of Child and Adolescent Psychiatry 40*(3): 282-289.

Yehuda, Rachel, Ilyse L. Spertus, and Julia A. Golier. 2001. "Relationship between Childhood Traumatic Experiences and PTSD in Adults." Pp. 117-146 in *PTSD in Children and Adolescents,* edited by S. Eth, J.M. Oldham, and M.B. Riba. Washington DC: American Psychiatric Publishing.

Zanarini, Mary C., Frances R. Frankenburg, Amy E. Sickel and Li Yong. 1996. "The Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV)". Belmont, MA: McLean Hospital.

Zugazaga, Carole. 2004. "Stressful Life Event Experiences of Homeless Adults: A Comparison of Single Men, Single Women, and Women with Children." *Journal of Community Psychology 32*(6): 643-654.

Table 1. Descriptive Statistics

	Mean (SD)/%	N
Dependent Variable		
Arrested (past year)	20.0%	30
Sociodemographic Characteristics		
Age (years)	38.9 (10.18)	147
Racial/ethnic minority	52.5%	84
Lesbian/bisexual	13.3%	20
Education (years)	12.13 (1.99)	150
Past month income <$300	53.4%	80
Currently married	22.0%	33
Childhood Abuse (overall)	75.3%	113
Physical/verbal abuse	62.7%	94
Sexual abuse	51.9%	83
Mental Health and Substance Use Disorders[a]		
Major depressive episode	50.0%	79
Posttraumatic stress disorder	41.1%	65
Antisocial personality disorder[bc]	7.5%	10
Alcohol abuse disorder[d]	27.2%	43
Alcohol dependence disorder	26.6%	42
Drug abuse disorder[d]	15.8%	25
Drug dependence disorder	42.4%	67
Homelessness Stressors		
Victimized while homeless	1.00 (1.45)	150
Housing-related stressors	1.44 (1.45)	150
Slept outside	41.3%	62
Months with homeless episode	35.91 (47.94)	150
Protective Factors		
Number of emotional social supporters	2.83 (2.90)	149
Number of instrumental social supporters	1.26 (1.80)	147
Self-efficacy	22.88 (3.21)	150

[a] DSM-IV Lifetime criteria; [b] DSM-IV Past-Year Criteria; [c] abuse without dependence

Table 2. Pearson Correlations among the Study Variables

Variables	1	2	3	4	5	6	7	8	9
1. Arrest	---								
2. Age	-.09	---							
3. Racial/Ethnic Minority	-.09	.03	---						
4. Lesbian/Bisexual	-.01	-.18*	-.03	---					
5. Education	-.02	-.03	-.16†	.03	---				
6. Income <$300	.13	.04	-.12	-.05	-.09	---			
7. Married	.10	.01	-.08	-.08	-.17*	.07	---		
8. Any Childhood Abuse	.17*	-.07	-.01	.05	-.08	-.13	-.03	---	
9. Physical Childhood Abuse	.09	-.03	-.01	-.01	-.03	-.08	-.03	.62***	---
10. Verbal Childhood Abuse	.13	-.01	-.04	.03	-.02	-.06	-.02	.62***	.65***
11. Sexual Childhood Abuse	.18*	-.03	.16*	.05	-.05	-.10	-.04	.64***	.38***
12. MDE[a]	.06	.05	-.03	.04	.11	-.17*	.06	.08	.16†
13. PTSD[a]	.08	-.01	.06	.08	-.06	-.08	.05	.15†	.17*
14. ASPD[b]	.16†	.15†	.10	.04	-.19†	.03	-.01	.09	.10
15. Alcohol Abuse[ac]	-.02	-.03	.06	-.21*	.06	-.01	-.07	.02	.10
16. Alcohol Dependence[a]	.23**	.27**	-.04	.15†	-.20*	-.06	.06	.06	.12
17. Drug Abuse[ac]	-.02	.07	.02	-.06	-.10	-.10	.06	-.11	-.03
18. Drug Dependence[a]	.27**	.13	-.02	.12	-.02	.02	-.12	.15†	.18*
19. Victimization While Homeless	.31***	.12	.00	.12	-.04	.03	-.19*	.14†	.24**
20. Housing Stressors	.12	-.05	.03	.13	.14†	-.04	-.17*	.18*	.32***
21. Slept Outside	.19*	.11	-0.02	.13	-.08	-.02	-.02	.14	.29***
22. Months with Homeless Episode	.06	.15†	.03	.15†	-.10	-.05	-.06	.08	.08
23. Number of Emotional Supporters	-.07	-.04	.04	.22**	-.01	-.17*	.08	-.06	-.02
24. Number of Instrumental Supporters	-.20†	.10	.05	.00	-.05	-.34**	-.11	-.14	-.12
25. Self-Efficacy	.12	-.07	-.11	-.03	.26**	.04	-.02	-.02	-.02

[a] DSM-IV Lifetime criteria; [b] DSM-IV Past-Year Criteria; [c] abuse without dependence

*** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Table 2. Pearson Correlations among the Study Variables, CONT'D.

Variables	10	11	12	13	14	15	16	17	18
10. Verbal Childhood Abuse	---								
11. Sexual Childhood Abuse	.35***	---							
12. MDE[a]	.25**	.05	---						
13. PTSD[a]	.26**	.26**	.37***	---					
14. ASPD[b]	.02	.14	-.11	-.07	---				
15. Alcohol Abuse[ac]	.00	.10	-.10	-.08	-.11	---			
16. Alcohol Dependence[a]	.13	.09	.06	.20*	.26**	-.37***	---		
17. Drug Abuse[ac]	-.01	-.14†	.15†	.03	.12	.05	.01	---	
18. Drug Dependence[a]	.11	.21**	.06	.14†	.14	.02	.32***	-.37***	---
19. Victimization While Homeless	.26**	.19*	.16†	.26**	.11	.02	.17*	.09	.19*
20. Housing Stressors	.40***	.10	.29***	.23**	-.01	-.08	.23**	-.14†	.17*
21. Slept Outside	.24**	.16†	.19*	.20*	.11	-.01	.19*	.00	.27**
22. Months with Homeless Episode	.07	.11	.12	.26**	.14	.05	.03	.03	.34***
23. Number of Emotional Supporters	-.11	.03	.15†	.19*	-.04	.03	.11	.10	.12
24. Number of Instrumental Supporters	-.20†	-.08	-.11	.22†	-.18	.12	.13	-.04	.25*
25. Self-Efficacy	-.04	.05	.00	-.06	-.04	.11	.05	.03	.03

[a] DSM-IV Lifetime criteria; [b] DSM-IV Past-Year Criteria; [c] abuse without dependence

*** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Table 2. Pearson Correlations among the Study Variables, CONT'D.

Variables	19	20	21	22	23	24	25
19. Victimization While Homeless	---						
20. Housing Stressors	.24**	---					
21. Slept Outside	.48***	.15†	---				
22. Months with Homeless Episode	.47***	.02	.52***	---			
23. Number of Emotional Supporters	-.03	-.15†	.07	.07	---		
24. Number of Instrumental Supporters	.01	-.18	.21†	.21†	.37**	---	
25. Self-Efficacy	.00	-.01	-.08	-.08	.16†	.08	---

*** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Table 3. Bivariate Logistic Regression Predicting Recent Arrest.

	b	*S.E.*	OR	95% C.I.
Childhood abuse (overall)[a]	1.27	0.64	3.56*	1.01 – 12.51
Physical and verbal abuse[a]	0.61	0.45	1.83	0.76 – 4.46
Sexual abuse[b]	0.98	0.45	2.66*	1.10 – 6.44

[a] N=150; [b] N=149
*** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Table 4. Bivariate Logistic Regression Predicting Major Depressive Episode.

	b	*S.E.*	OR	95% C.I.
Childhood abuse (overall)[a]	0.38	0.38	1.47	0.69 – 3.12
Physical and verbal abuse[a]	0.66	0.35	1.94†	0.98 – 3.82
Sexual abuse[b]	0.20	0.32	1.23	0.66 – 2.29

[a] N=149; [b] N=148
*** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Table 5. Bivariate Logistic Regression Predicting Posttraumatic Stress Disorder.

	b	*S.E.*	OR	95% C.I.
Childhood abuse (overall) [a]	0.72	0.41	2.05†	0.92 – 4.54
Physical and verbal abuse [a]	0.69	0.35	1.98†	0.99 – 3.96
Sexual abuse [b]	1.11	0.34	3.03**	1.56 – 5.89

[a] N=149; [b] N=148
*** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Table 6. Bivariate Logistic Regression Predicting Antisocial Personality Disorder.

	b	*S.E.*	OR	95% C.I.
Childhood abuse (overall) [a]	1.10	1.08	3.00	0.67 – 24.67
Physical and verbal abuse [a]	0.37	0.72	1.45	0.36 – 5.89
Sexual abuse [b]	1.17	0.81	3.21	0.65 – 15.77

[a] N=130; [b] N=129

*** $p<.001$, ** $p<.01$, * $p<.05$, † $p<.10$.

Table 7. Bivariate Logistic Regression Predicting Alcohol Abuse Disorder.

	b	*S.E.*	OR	95% C.I.
Childhood abuse (overall) [a]	0.08	0.43	1.08	0.47 – 2.49
Physical and verbal abuse [a]	0.11	0.38	1.12	0.53 – 2.35
Sexual abuse [b]	0.37	0.37	1.45	0.70 – 3.01

[a] N=149; [b] N=148

*** $p<.001$, ** $p<.01$, * $p<.05$, † $p<.10$.

Table 8. Bivariate Logistic Regression Predicting Alcohol Dependence Disorder.

	b	*S.E.*	OR	95% C.I.
Childhood abuse (overall) [a]	0.33	0.45	1.39	0.57 – 3.63
Physical and verbal abuse [a]	0.41	0.40	1.50	0.68 – 3.27
Sexual abuse [b]	0.49	0.39	1.63	0.77 – 3.46

[a] N=149; [b] N=148

*** $p<.001$, ** $p<.01$, * $p<.05$, † $p<.10$.

Table 9. Bivariate Logistic Regression Predicting Drug Abuse Disorder.

	b	*S.E.*	OR	95% C.I.
Childhood abuse (overall) [a]	-0.66	0.49	0.52	0.20 – 1.36
Physical and verbal abuse [a]	-0.16	0.47	0.85	0.34 – 2.14
Sexual abuse [b]	-0.69	0.47	0.50	0.20 – 1.26

[a] N=149; [b] N=148
*** *p*<.001, ** *p*<.01, * *p*<.05, †*p*<.10.

Table 10. Bivariate Logistic Regression Predicting Drug Dependence Disorder.

	b	*S.E.*	OR	95% C.I.
Childhood abuse (overall) [a]	0.75	0.41	2.12†	0.96 – 4.71
Physical and verbal abuse [a]	0.48	0.35	1.62	0.82 – 3.20
Sexual abuse [b]	0.86	0.35	2.36*	1.20 – 4.64

[a] N=149; [b] N=148
*** *p*<.001, ** *p*<.01, * *p*<.05, †*p*<.10.

Table 11. Bivariate Negative Binomial Regression Predicting Victimization While Homeless.

	b	*S.E.*	95% C.I.
Childhood abuse (overall) [a]	0.54†	0.32	-0.08 – 1.16
Physical and verbal abuse [a]	0.75**	0.27	0.21 – 1.29
Sexual abuse [b]	0.60*	0.26	0.08 – 1.11

[a] N=150; [b] N=149
*** *p*<.001, ** *p*<.01, * *p*<.05, †*p*<.10.

Table 12. Bivariate Negative Binomial Regression Predicting Housing Stressors.

	b	S.E.	95% C.I.
Childhood abuse (overall) [a]	0.49*	0.22	0.07 – 0.92
Physical and verbal abuse [a]	0.73***	0.19	0.37 – 1.10
Sexual abuse [b]	0.22	0.18	-0.13 – 0.57

[a] N=150; [b] N=149
*** *p*<.001, ** *p*<.01, * *p*<.05, †*p*<.10.

Table 13. Bivariate Logistic Regression Predicting Sleeping Outside.

	b	S.E.	OR	95% C.I.
Childhood abuse (overall) [a]	0.67	0.41	1.94	0.88 – 4.31
Physical and verbal abuse [a]	1.01	0.37	2.73**	1.34 – 5.60
Sexual abuse [b]	0.69	0.34	1.99*	1.02 – 3.91

[a] N=150; [b] N=149
*** *p*<.001, ** *p*<.01, * *p*<.05, †*p*<.10.

Table 14. Bivariate OLS Regression Predicting Months With Homeless Episode[a]

	b	S.E.	95% C.I.
Childhood abuse (overall) [b]	0.12	0.11	-0.11 – 0.34
Physical and verbal abuse [b]	0.10	0.08	-0.10 – 0.29
Sexual abuse [c]	0.13	0.10	-0.06 – 0.32

[a] natural log; [b] N=149; [c] N=148
*** *p*<.001, ** *p*<.01, * *p*<.05, †*p*<.10.

Table 15. Bivariate Logistic Regressions for Mental Health and Substance Use Disorders Predicting Arrest (N=149).

	b	*S.E.*	OR	95% C.I.
Major depressive episode	0.29	0.41	1.33	0.60 – 2.97
Posttraumatic stress disorder	0.39	0.41	1.48	0.62 – 3.31
Antisocial personality disorder[a]	1.20	0.69	3.33†	0.86 – 12.90
Alcohol abuse disorder	-0.10	0.46	0.91	0.37 – 2.24
Alcohol dependence disorder	1.19	0.43	3.29**	1.42 – 7.64
Drug abuse disorder	-0.15	0.60	0.86	0.27 – 2.77
Drug dependence disorder	1.42	0.44	4.12**	1.74 – 9.80

[a] N=130

*** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Table 16. Multivariate Logistic Regression for Mental Health and Substance Use Disorders Predicting Arrest (N=129).

	Model 1		Model 2		Model 3	
	B (SE)	OR	B (SE)	OR	B (SE)	OR
Antisocial personality disorder	1.19 (0.69)	3.30†	0.68 (0.74)	1.98	0.66 (0.76)	1.93
Alcohol dependence disorder			1.27 (0.49)	3.58**	0.73 (0.52)	2.08
Drug dependence disorder					1.82 (0.61)	6.20**
Nagelkerke *R*-Square	0.03		0.11		0.24	

*** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Table 17. Bivariate Logistic Regressions for Homelessness Stressors Predicting Arrest (N=150)

	b	*S.E.*	OR	95% C.I.
Victimization while homeless	0.47	0.13	1.59***	1.23 – 2.06
Housing stressors	0.20	0.14	1.23	0.94 – 1.60
Slept outside	0.95	0.42	2.59*	1.14 – 5.88
Months homeless [a]	0.26	0.35	1.29	0.65 – 2.58

[a] Natural log
*** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Table 18. Multivariate Logistic Regression for homelessness stressors predicting arrest (N=150).

	Model 1		Model 2	
	B (SE)	OR	B (SE)	OR
Slept outside	0.95 (0.42)	2.95*	0.32 (0.49)	1.38
Victimization while homeless			0.42 (0.15)	1.52**
Nagelkerke *R*-Square	0.06		0.13	

*** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Table 19. Mediated Associations From Childhood Abuse (Overall) To Arrest.

	b	*Sobel*	*SE*	*p*
Mediating Variable				
Drug dependence disorder	1.00	1.57	0.04	0.12
Victimization while Homeless	0.24	1.53	0.03	0.13

Table 20. Mediated Associations from Childhood Sexual Abuse to Arrest.

	b	*Sobel*	*SE*	*p*
Mediating Variable				
Drug dependence disorder	1.10	1.87	0.04	0.06
Victimization while Homeless	0.26	1.86	0.03	0.06
Slept outside	0.60	1.43	0.03	0.15

Table 21. Logistic Regression For Protective Factors Predicting Arrest (N=147).

	b	*S.E.*	OR	95% C.I.
Number of emotional social supporters	-0.07	0.14	0.93	0.70 – 1.23
Number of instrumental social supporters	-0.06	0.09	0.94	0.80 – 1.11
Self-efficacy	0.10	0.07	1.10	0.96 – 1.26

*** *p<.001, ** p<.01, * p<.05, †p<.10.*
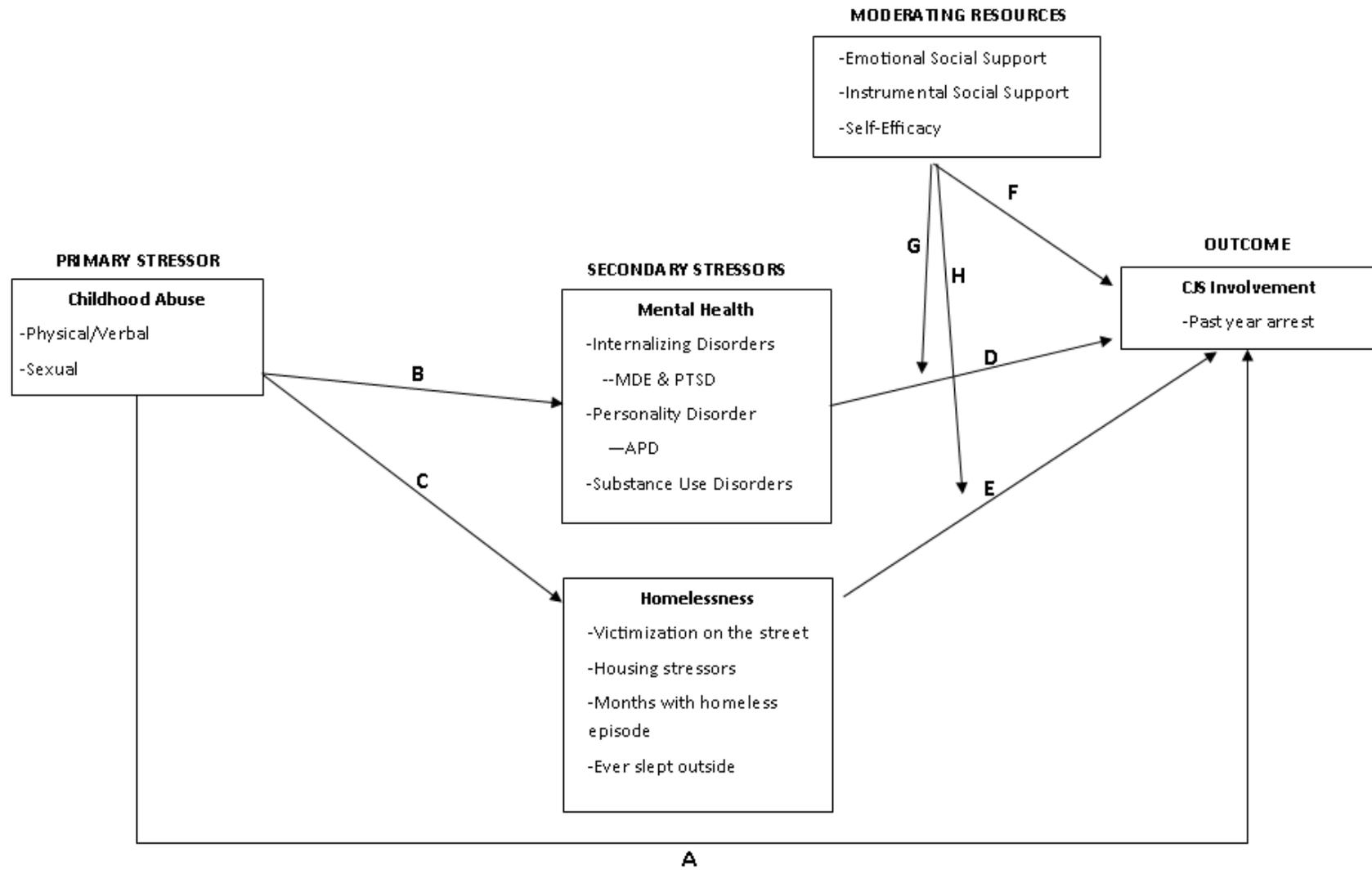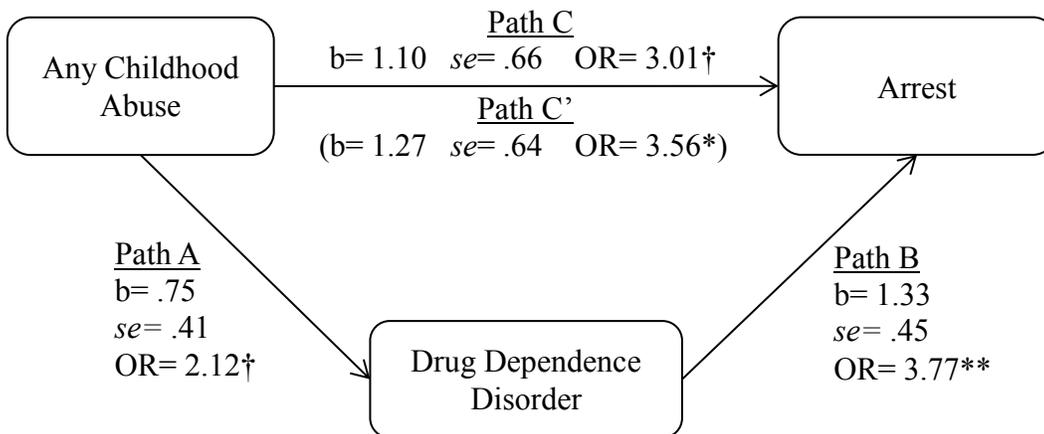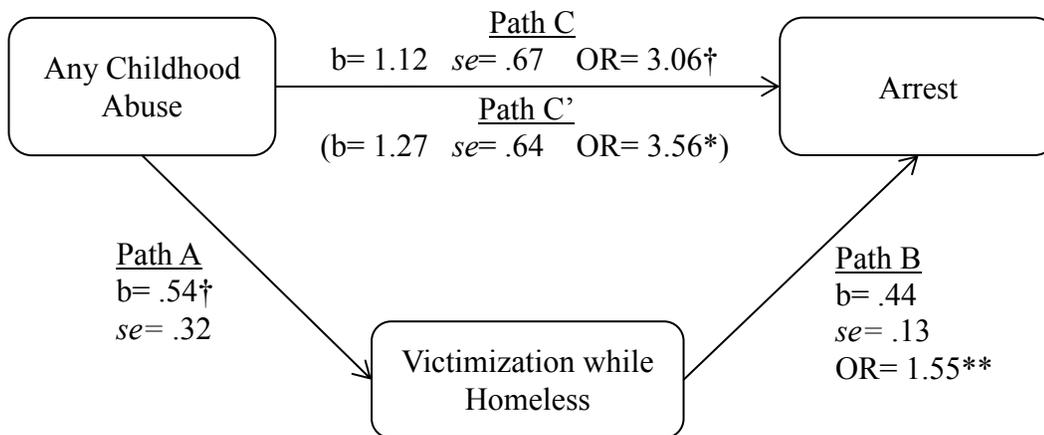
Figure 1. Conceptual Model.

**Figure 2. Mediation Model for Drug Dependence Disorder as a
Mediator of the Association between Any Childhood Abuse and Arrest.**
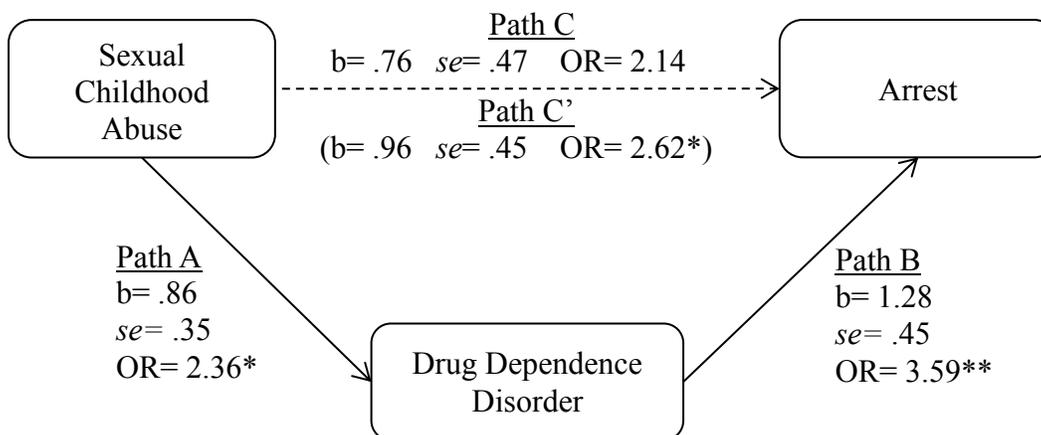

Note: *** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

**Figure 3. Mediation Model for Victimization while Homeless as a
Mediator of the Association between Any Childhood Abuse and Arrest.**
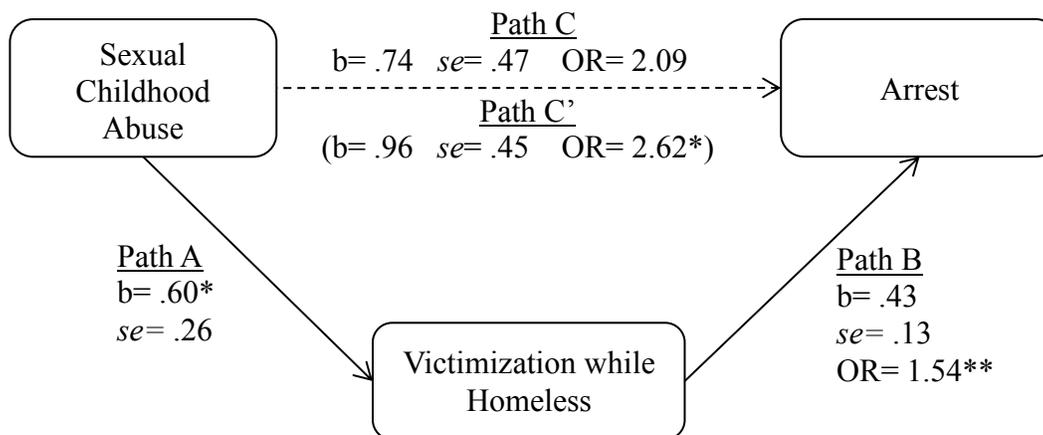

Note: *** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Figure 4. Mediation Model for Drug Dependence Disorder as a Mediator of the Association between Sexual Childhood Abuse and Arrest.

Path C
b= .76   *se*= .47   OR= 2.14

Path C'
(b= .96   *se*= .45   OR= 2.62*)

Sexual Childhood Abuse → Arrest

Path A
b= .86
se= .35
OR= 2.36*

Path B
b= 1.28
se= .45
OR= 3.59**

Drug Dependence Disorder

Note: Dashed line represents significant mediation, as indicated by Sobel's test.
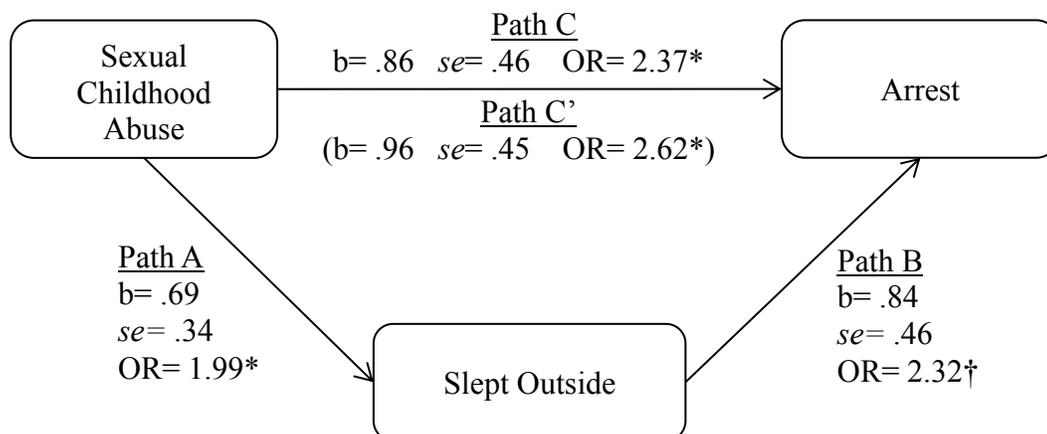*** *p*<.001, ** *p*<.01, * *p*<.05, †*p*<.10.

Figure 5. Mediation Model for Victimization while Homeless as a Mediator of the Association between Sexual Childhood Abuse and Arrest.

Path C
b= .74   *se*= .47   OR= 2.09

Path C'
(b= .96   *se*= .45   OR= 2.62*)

Sexual Childhood Abuse → Arrest

Path A
b= .60*
se= .26

Path B
b= .43
se= .13
OR= 1.54**

Victimization while Homeless

Note: Dashed line represents significant mediation, as indicated by Sobel's test.
*** *p*<.001, ** *p*<.01, * *p*<.05, †*p*<.10.

Figure 6. Mediation Model for Sleeping Outside as a Mediator of the Association between Sexual Childhood Abuse and Arrest.

Note: *** $p<.001$, ** $p<.01$, * $p<.05$, †$p<.10$.

Appendix A. Housing-Related Stressors

(No=0; Yes=1)

Please tell me if you have experienced any of the following things in the past 12 months:

1. You had problems finding shelter.
2. You reached your maximum stay at a shelter.
3. There was overcrowding where you were staying.
4. There was too much noise where you were staying.
5. You had problems finding good.
6. You had problems finding showers.

Appendix B. Self-Efficacy

(Strongly Agree=4; Agree=3; Disagree=2; Strongly Disagree=1)

Please tell me how much you agree or disagree with the following statements:

1. There's no sense planning a lot—if something good is going to happen, it will.
2. The really good things that happen to me are mostly luck.
3. I am responsible for my own successes.*
4. I can do just about anything I really set my mind to.*
5. Most of my problems are due to bad breaks.
6. I have little control over the bad things that happen to me.
7. My misfortunes are the result of mistakes I have made.*
8. I am responsible for my failures.*

*Items were reversed coded for analyses.