INVISIBLE MEN: A LONGITUDINAL ANALYSIS OF HOMELESSNESS AMONG EX-INMATES

A Dissertation in Sociology

by

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ABSTRACT

This dissertation has two main aims. First, it assesses the long term risk of homelessness among individuals exiting prison. Second, it examines whether there are different forms of homelessness among ex-inmates. The conceptual and analytical models are drawn from various theoretical traditions including criminology, life course sociology, and social stratification. Administrative data from the Pennsylvania Department of Corrections and Philadelphia’s Office of Supportive Housing are used to estimate (1) event history models establishing the risk of homelessness among ex-inmates for 94 months post-release, and (2) latent class models assessing whether statistically distinct types of homelessness exist among ex-inmates.

Two main findings emerge from the analysis. First, the results show that ex-inmates are at risk for homelessness long after release from prison, many becoming homeless for the first time years later. While ex-inmates are at the greatest risk of homelessness shortly after release, approximately 44% of those who became homeless first had this experience two or more years after release. Second, there is considerable heterogeneity in homelessness experiences among ex-inmates. In contrast to prior work which suggests that homelessness is primarily a reentry problem for ex-inmates, I find that ex-inmates who became homeless shortly after release were most likely to be chronically homeless throughout the observation period. I also find two types of delayed homelessness; some experienced a delayed, short spell while others experienced prolonged homelessness beginning years after release. A final group experienced homelessness intermittently throughout the observation period.

A variety of factors explain the risk of homelessness among ex-inmates. Health behaviors, including mental illness and drug use, significantly complicate the reintegration process. Being older and being African American represent additional obstacles. Regarding the incarceration experience, full sentence completion is also a risk factor. Moreover, a history of
homelessness prior to incarceration is a strong predictor of homelessness post-release. In contrast, marriage, a high school diploma, longer than average sentences, and parole appear to buffer ex-inmates from homelessness. Similar factors distinguish between different forms of homelessness. The chronically homeless group, which undergoes the most homelessness, is generally more disadvantaged compared to the other groups who become homeless.
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INTRODUCTION

Homelessness among ex-inmates is a growing concern given the rapid expansion of the American penal system over the past four decades. In 1974, there were 210,000 individuals in state and federal correctional facilities (Uggen, Manza, and Thompson 2006). Today there are 1.5 million Americans incarcerated, with nearly 690,000 released annually (Carson and Sabol 2012; Glaze and Parks 2012). Despite the dramatic rise in imprisonment rates, little provision has been made for when individuals are released. Traditional methods of reintegration, such as parole, have been reduced rather than expanded, complicating reentry for an unprecedented number of ex-inmates (Petersilia 2003). Furthermore, a burgeoning literature has documented adverse and far reaching consequences of incarceration across a variety of life domains. To date, research indicates that incarceration has pernicious effects on employment and wages (Pager 2003; Western 2002), physical and mental health (Massoglia 2008a; Schnittker, Massoglia, and Uggen 2012), and family relationships (Comfort 2007; Massoglia, Remster, and King 2011). These unintended consequences further complicate the reintegration process for ex-inmates.

One fundamental, yet often overlooked, aspect of reintegration is the residential circumstances of ex-inmates. Bradley and colleagues (2001, 1) write:

“Housing is the lynchpin that holds the reintegration process together. Without a stable residence, continuity in substance abuse and mental health treatment is compromised. Employment is often contingent upon a fixed living arrangement. And, in the end, a polity that does not concern itself with the housing needs of returning prisoners finds that it has done so at the expense of its own public safety.”

Many former inmates have no home to return to after release because incarceration damages or severs bonds with family (Edin, Nelson, and Paranal 2004) or parole or public housing requirements prohibit ex-inmates from rejoining them (Travis 2005). Other reintegration challenges such as vocational deficits and the stigma of incarceration make affording and finding
housing difficult.

Perhaps not surprisingly, a number of former inmates become homeless. Estimates of rates of homelessness among ex-inmates vary substantially, indicating considerable data and methodological limitations. For instance, Metraux and Culhane (2004) find that 11% of former New York state inmates became homeless in the first two years after release whereas the California Department of Corrections (1997) estimates that between 30% and 50% of parolees in San Francisco and Los Angeles are homeless at any given time. Beyond this, little is known about the character of homelessness among ex-inmates. For instance, how long are ex-inmates homeless? Is it a single or repeat occurrence? What are the risk factors for homelessness among this already disadvantaged population? Furthermore, given the lasting and multifaceted effects of incarceration on ex-inmates’ life chances, are ex-inmates at risk for homelessness long after release?

Homelessness among ex-inmates is a problem of significant concern given that it (1) elevates the risk of recidivism, (2) amplifies other reintegration challenges such as employment and health limitations, and (3) is in itself an indicator of acute reintegration problems (Gowan 2002; Metraux and Culhane 2004). Lastly, the size of the potential problem is also cause for concern: there are approximately four million former prisoners in the general population at risk for homelessness (Uggen, Manza, and Thompson 2006). This dissertation will fill a major gap in existing literature by examining the nature of homelessness among ex-inmates for nearly eight years after release. More specifically, I will assess (1) ex-inmates’ lasting risk of homelessness over time, (2) risk factors for homelessness among ex-inmates, and (3) variation in patterns of homelessness as well as (4) factors which influence specific patterns of homelessness among ex-inmates. In order to begin to understand homelessness among ex-inmates, we have to first assess
the size and scope of the issue, as well as forms of homelessness among ex-inmates.

This dissertation proceeds as follows. In Chapter 1, I provide the backdrop for understanding how prisoner reentry became a significant social problem, beginning with an overview of recent trends in U.S. punishment, the origins of these trends, and the punitive shift in correctional policy. I then describe the impact of the incarceration boom on individuals, families, and communities and the reintegration challenges facing ex-inmates upon release. In Chapter 2, I explore the connection between incarceration and homelessness. The first part of the chapter describes the rise of contemporary homelessness in the United States, details the overlapping features of the ex-inmate and homeless populations, and reviews prior research. Then I describe my research questions and place them within a conceptual framework for understanding homelessness among ex-inmates. I discuss the data, measures, and analytic methods used in the analysis in Chapter 3. In Chapter 4, I present results on ex-inmates’ risk of homelessness for nearly eight years post-release using administrative records from Pennsylvania prisons and Philadelphia homeless shelters. In Chapter 5, I present a typology of the various forms of homelessness among ex-inmates based on shelter usage patterns over nearly eight years. In the conclusion (Chapter 6), I discuss the results of this project, linking the risk of homelessness with patterns of homelessness among ex-inmates and outlining its implications for future research.
CHAPTER 1: THE COLLATERAL CONSEQUENCES OF INCARCERATION

[FIGURE 1 ABOUT HERE]

*Historical Shifts in Incarceration in the United States*

The American penal system is a defining feature of modern society, but this was not always the case. From 1925 to 1973, the U.S. incarceration rate remained relatively stable at about 100 inmates per 100,000 residents. Yet it began to grow at an unprecedented rate in the mid 1970s and now stands at approximately 492 inmates per 100,000 residents (Carson and Sabol 2012). Figure 1 illustrates this uniquely American trend. Since 2002, the United States has had the highest incarceration rate worldwide. Figure 2 displays selected total incarceration rates (prison and jail) for countries with similar demographic, social, and economic characteristics in 2010. The U.S. rate is four to eight times that of other industrialized countries in Western Europe (Walmsley 2010). Though separated by a large margin, Russia’s rate is the closest to the U.S. followed by South Africa and Singapore.

[FIGURE 2 ABOUT HERE]

Notably, this high incarceration rate has persevered despite changes in crime rates, economic conditions, and political climates over time. Notwithstanding landmark events like the violent crime drop of the 1990s, the rate continued to climb into the late 2000s. Most experts agree that the widespread use of incarceration in the U.S. is a policy choice rather than a response to prevailing circumstances (see Clear 2007 for a review).

A variety of explanations have been put forth to explain this historic shift in penal policy. Most explanations converge around political and economic factors, although scholars emphasize these components to different degrees (Beckett 1997; Garland 2001; Western 2006). The 1960s brought large scale social change, including the Civil Rights movement and the simultaneous
erosion of white privilege. Economic inequality rose with the collapse of urban labor markets and deindustrialization. In response, politicians touted images of law and order and devised strategies like the Tough on Crime Movement and the War on Drugs to deal with society’s outsiders: idle young African American males. The media also contributed to the criminalization of black males and growing fear of crime. As a consequence, Americans became focused on containment and control (Alexander 2010; Garland 2001; Soss, Fording, and Schram 2012; Wacquant 2000, 2001). Prison expansion was an amenable solution because, in addition to increased perceived safety, it promised economic growth.

These political and economic shifts coincided with a major change in the purpose of American corrections. Until the 1970s, the American correctional system had been premised on principles of rehabilitation, dating back over two hundred years to the Quakers in Pennsylvania. In search of a more humane alternative to the death penalty, the Quakers invented penitentiaries, which were “an experiment in molding human behavior that was befitting of other innovations in the new democracy of the United States” (Mauer 1999, 1). Prior to this, prisons in the American colonies and Europe were primarily used for pretrial detention and debtors. The Walnut Street Jail in Philadelphia, later Eastern State Penitentiary, opened in 1790. Premised on the notion of “penitence”, prisoners were kept in solitary confinement where they worked various trades and studied the Bible (Mauer 1999). Rehabilitative sentiment began to diminish in the late 1960s, as research emerged suggesting that prisons were perpetuating crime rather than reducing it (National Advisory Commission on Criminal Justice Standards and Goals 1973). Martinson’s (1974) report stating that “nothing works” in corrections was also highly influential. More recent empirical studies have found that corrections are far from futile (see Cullen and Gendreau 2000 for a review), but in combination with the economic and political factors noted above,
public attitudes shifted the purpose of the criminal justice system from rehabilitative to punitive.

The punitive shift translated into two major changes in the criminal justice system: Americans were more likely to be incarcerated and more likely to be incarcerated for longer periods of time (Western 2006). In other words, the implementation of harsher penalties meant that individuals were incarcerated for offenses that in previous eras would not have been associated with prison time, particularly nonviolent offenses. Moreover, sentence length increased with the advent of mandatory minimums and three strikes laws. The widening of the penal net effectively placed a new generation of young men, predominantly black, behind bars and did so for longer sentences than ever before.

To qualify as “mass incarceration,” Garland (2001) specifies two criteria. The first has already been discussed at length above, a historic increase in incarceration on a grand scale (see Figure 1). The second, higher rates of incarceration for certain subgroups of the population, deserves further attention. While the prison population partially reflects preexisting population differences in disadvantage and involvement in crime, significant disparities in race, class, and sex persist (Wakefield and Uggen 2010). Though males commit more crime and comprise approximately 93% of the prison population (Carson and Sabol 2012), female incarceration is growing faster than male (Kruttschnitt and Gartner 2005). Regarding race, Pettit and Western (2004) demonstrated enormous disparities in incarceration rates, showing that black males who came of age during the prison boom have a lifetime cumulative risk of incarceration of 20%, compared to 3% for white males. Incarceration is also highly stratified by education: the risk swells to 59% for black males without a high school degree and 11% for white males. Incarceration has become so common in the lives of young black males that it has been labeled a stage in the life course (Pettit and Western 2004). Moreover, it has surpassed other key markers
of the transition to adulthood; black males are more likely to be incarcerated than graduate from college or serve in the military.

This brief review of the history, size, and scope of the penal system provides the context for the focus of this dissertation. As a result of incarceration growth, approximately 690,000 Americans are released from prisons annually and are subsequently at risk for homelessness (Carson and Sabol 2012). Moreover, there are approximately four million former inmates in the general population at risk (Uggen, Manza, and Thompson 2006). Next I review the consequences of incarceration and the reintegration challenges that stem from these consequences. As I will describe, the reintegration process is fraught with obstacles which increase the risk of homelessness among ex-inmates.

The Consequences of Incarceration

A burgeoning body of research reveals the often lasting, deleterious effects of the penal system on inmates, their families, and communities (see Comfort 2007; Wakefield and Uggen 2010 for reviews). For instance, the “mark” of a criminal record complicates employment and depresses wage growth (Pager 2003; Western 2002). Incarceration also has short and long term effects on ex-inmates’ health, including physical and mental health (Massoglia 2008a; Schnittker, Massoglia, and Uggen 2012) and infectious disease (Massoglia 2008b). In regard to residential circumstances, imprisonment affects where former inmates live; whites, in particular live in more disadvantaged neighborhoods post-release (Massoglia, Firebaugh, and Warner 2013). Moreover, incarceration is detrimental to family functioning, damaging bonds with children and families and increasing the likelihood of marital dissolution (Edin, Nelson, and Paranal 2004; Massoglia, Remster, and King 2011). Incarceration also increases poverty for ex-
inmates (Harris, Evans, and Beckett 2010). Furthermore, these effects are intergenerational, as children of incarcerated parents are more likely to grow up in poverty and engage in delinquency (Wildeman 2009; 2010).

Moving beyond individuals, aggregate level research finds that the prison boom has affected population health, racial health disparities, political inequality, and poverty (DeFina and Hannon 2009; Manza and Uggen 2006; Massoglia 2008a; Wildeman 2011). Other research indicates that mass incarceration distorts the black-white wage gap (Western and Pettit 2005). By removing a large portion of black males from labor force statistics, the prison boom artificially inflated economic progress for blacks. In short, the contemporary penal system affects subsequent individual and aggregate opportunities long after release.

Reintegration Challenges

The consequences of incarceration, ranging from difficulty finding employment to grappling with health and family issues, present ex-prisoners with a host of reintegration challenges. Prior research suggests that the stigma and stress associated with incarceration as well as ex-inmates’ education and vocational skill deficits and weak social ties all complicate reintegration in various ways. Collateral consequences, such as restrictions on public assistance, also impede reintegration. These reintegration challenges are central to understanding ex-inmates’ risk of homelessness.

Stigma, Stress, and Control

A stigma is a defining trait, a mark that refers to a negative set of characteristics and stereotypes about a person, which results in discrimination (Goffman 1964; Link and Phelan 2001; Massoglia, Remster, and King 2011). The labor market is a key setting in which ex-
inmates encounter stigma in the form of stereotypes that they are untrustworthy, lazy, or incompetent. Indeed, Pager (2003) finds that having a criminal record reduces the likelihood of receiving a call back from potential employers. Discrimination on the basis of a criminal record also erodes positive credentials, such as work history, skills, and social ties which might negate stigma. Stigma may affect social reintegration as well; acquaintances may be wary of the felon label. For instance, Braman (2004) reports that inmates’ families try to hide their loved ones’ whereabouts from community members. Massoglia and Schnittker (2009) argue that the stigma of incarceration may be particularly strong because, in contrast to discrimination on the basis of ascribed characteristics, ex-inmates have no form of redress. Stigma has also been used to explain the effects of incarceration on chronic health problems because it is considered to be a stressor in medical sociology (Schnittker and John 2007).

Stress from incarceration may affect reintegration in other ways. First, incarceration represents a dramatic life event which, like other major events such as job loss or divorce, may directly produce chronic stress (Massoglia 2008a). Decades of ethnographic research affirm that incarceration is indeed a traumatic experience (Abbott 1981; Hassine 2004; Sykes 1971). In addition to operating as a primary stressor (Pearlin 1989), incarceration produces secondary stressors by making it difficult to find employment and maintain personal relationships. Both primary and secondary stressors result in chronic stress which hinders the body’s ability to fight off infectious disease and other stress related illnesses. Stress may also contribute to substance abuse and mental health problems (Agnew and White 1992; Wheaton 1990).

Reintegration may be further complicated by incarceration’s effects on a person’s locus of control. The classic Whitehall studies show that a loss or perceived loss of control over one’s life, such as a change in social location, can have detrimental effects (see Marmot 2004).
Incarceration affects one’s social position by depressing wages and lowering social status, via skill deficits and the “mark” of a criminal record (Massoglia 2008a; 2008b). In other words, incarceration lowers individuals’ status in society and the lack of control over this change can manifest in health, employment, and family problems.

**Vocational and Education Deficits**

Ex-inmates’ vocational and education deficits also impede reintegration. Bruce Western (2002) has shown that incarceration slows wage growth by approximately 19%, which he explains with gaps in ex-inmates’ work experience and the growing penalty of low education as ex-inmates age. While most ex-inmates eventually secure employment, their limited vocational and educational success continues to affect them-- the jobs they obtain offer little wage growth.

**Damaged Social Ties**

Another challenging aspect of reintegration is that personal relationships may be damaged by incarceration, specifically through physical separation from loved ones. Massoglia and colleagues (2011) propose that physical separation of spouses limits emotional interaction and breeds resentment through unbalanced household and parenting duties. Spouses may grow and change while separated, making it difficult to resume their relationship post-release. Similarly, Cathy Edin and colleagues (2004) find that missed milestones such as birthdays and school events destabilize parent-child relationships.

These reintegration challenges are widespread among ex-inmates. For instance, approximately three-quarters of ex-inmates remain unemployed one year after release (Petersilia 2003). Three-fifths of inmates reported recent drug use and one-fourth had a mental health problem (James and Glaze 2006; Mumola 1999). About 17% of released inmates are infected with Hepatitis C, which is approximately nine times higher than the rate in the general
population (National Commission on Correctional Health Care 2004). Furthermore, the “failure” rate is quite high; approximately two-thirds will be rearrested for a new offense within three years of release (Langan and Levin 2002).

Collateral Consequences

In addition to the unintended consequences of incarceration, ex-inmates face formal sanctions—known as collateral consequences—that restrict participation in social institutions and poses additional reintegration obstacles. Despite having ‘done their time’, many states bar individuals who have been convicted of a felony from certain occupations, political participation and access to higher education and public assistance. I draw the current study’s sample from Pennsylvania, which imposes a variety of restrictions (Uggen, Manza, and Thompson 2006; National Inventory of the Collateral Consequences of Conviction 2013). Pennsylvania has extensive occupational restrictions and prohibits ex-felons from holding public office and serving on a jury. Individuals are also ineligible for cash assistance programs including General Assistance (GA) and Social Security Income (SSI). Pennsylvania has a “discretionary eviction” policy which allows public housing authorities to evict ex-prisoners and their families for disruptive behavior. Furthermore, research finds widespread confusion about actual restrictions against ex-prisoners (Manza and Uggen 2006).

All of these reintegration challenges affect ex-inmates’ ability to obtain housing. For instance, vocational deficits and occupational restrictions make affording housing difficult. Housing is considered the “lynchpin” of the reintegration process because the absence of stable housing affects other key life domains (Bradley et al. 2001). It is hard to obtain and maintain a job without adequate housing. Substance abuse and physical and mental health issues also escalate without a stable home (Petersilia 2003). Additionally, housing instability is associated
with recidivism (Metraux and Culhane 2004). However, obtaining stable housing in and of itself is a major hurdle in the reintegration process.

**Housing**

In one study of ex-inmates “virtually all of the interviewees said housing was the most difficult need to meet” (Helfgott 1997, 16). Recent research details the multifaceted struggles ex-inmates face upon release but less attention has been devoted to perhaps the most fundamental reintegration issue, housing (Travis 2005). This dissertation examines the extent of severe reintegration problems among ex-inmates, manifested as homelessness. By investigating perhaps the most acute form of disadvantage and social exclusion in society, this research will contribute to our understanding of reintegration challenges as well as ex-inmates’ life chances. In doing so, this project highlights the connection between two major forms of contemporary stratification in the United States: incarceration and homelessness. Before I explain the unique overlapping characteristics of incarceration and homelessness in Chapter 2, several recent changes in the reintegration process are worth noting.

**Historical Changes in Reintegration**

The reintegration process has changed considerably since the advent of the prison boom, which may affect the risk of homelessness among ex-inmates. Prior to the prison boom, parole was an integral part of the reintegration process (Petersilia 2003). Parole boards required inmates to have housing and employment in place prior to release and helped secure both. After release, ex-inmates met regularly with their parole officer who offered guidance and support during the transition from prison to community. This social work orientation could not be maintained with the expansion of the penal system. Petersilia (2003, 11) notes that this shift in the role of parole departments from “services to surveillance” occurred as reentry became
increasingly difficult. In 1977, four percent of prisoners were released after completing their full sentence, meaning that they did not receive parole or access to services associated with parole. By 1999 this number had increased to approximately 18% (Petersilia 2003).

Moreover, changes in parole have specifically affected the process of obtaining housing. In the past, parole boards facilitated the housing search. In contrast, contemporary policies erect significant barriers to stable housing for ex-inmates. For instance, the bulk of former inmates are released on parole and most parole regulations prevent ex-inmates from living with individuals with a criminal history. This may eliminate many options for ex-inmates, especially those returning to neighborhoods with high levels of imprisonment (Clear 2007); many of their social ties may be with people who have criminal histories. Parolees are also prohibited from leaving the county, limiting options to nearby family and friends.

Summary

In this chapter I have described the recent growth in incarceration in the United States and reviewed its main causes as well as the consequences of incarceration on this scale. I argue that the reintegration challenges associated with these consequences affect ex-inmates’ ability to obtain housing, which is central to successful reintegration. The present study will contribute to our understanding of reintegration by examining acute reintegration problems, manifested as homelessness. In the next chapter I show how the prison boom and the rise in contemporary homelessness are related, review research to date on incarceration and housing instability, and develop a conceptual model for understanding homelessness among ex-inmates.
CHAPTER 2: LINKING INCARCERATION WITH HOMELESSNESS

Shared Characteristics of Incarceration and Homelessness in the United States

Although rarely connected, the incarceration boom and contemporary homelessness have strikingly similar features, beginning with their timing (Metraux and Culhane 2004). Both the homeless and incarcerated populations grew dramatically starting in the 1980s. However, homelessness and incarceration share a historical connection dating back to Colonial America. During this period, vagrants were sent to ‘poor houses’, one of the earliest forms of prison (Rothman 1971; Snow and Anderson 1993). Today, the United States continues to have exceptionally high rates of homelessness and incarceration (Walmsley 2010; Wright, Rubin, and Devine 1998).

While precise definitions have shifted with time, two features continue to describe homelessness: the absence of both a permanent residence and social resources and ties (Depastino 2003). Extreme poverty is implicit (Lee, Tyler, and Wright 2010). Although homelessness has been a social problem for centuries, historical events have contributed to the growth and reduction in the homeless population over time. In the United States, the Civil War was responsible for one of the first major influxes, leaving thousands of Americans without homes and families. Other major contributors included the turn of the century immigration wave and a series of economic ups and downs beginning in the late 1800s and culminating in the Great Depression. For a portion of the late 19th and early 20th centuries, homeless men were in demand (Anderson 1923). The industrial and agricultural economy required large numbers of mobile laborers in distant places. Termed either ‘hoboes’ or ‘tramps’, homeless men “both played a central role in American labor and became a prominent feature of the urban landscape” in this period (Snow and Anderson 1993:13). Most were absorbed into the military work force during
the World Wars and federal assistance to returning veterans after World War II virtually
eliminated the homeless population. As a result, the composition of ‘skid rows’, urban areas that
formerly housed the working homeless, shifted to the ‘unwanteds’ in society, including petty
criminals, substance abusers, the mentally ill, mentally and/or physically disabled, and the
socially isolated elderly (Bahr and Caplow 1973; Bogue 1963). These impoverished groups
relied on the inexpensive housing, meals, and services available on skid row. But the new skid
row served a broader social function: segregating stigmatized segments of society from the
general public, a segregation which the police enforced (Hoch and Slayton 1989). By the mid-
1970s, skid row populations substantially decreased (Lee 1980). Improved public assistance
allowed residents to afford housing in other neighborhoods and most single room-occupancy
(SRO) lodging establishments and boarding houses fell prey to urban renewal projects and
gentrification (Hoch and Slayton 1989).

[FIGURE 3 ABOUT HERE]

In the early 1970s, incarceration and homelessness had presumably become social
problems of the past (National Advisory Commission on Criminal Justice Standards and Goals
1973; Lee 1980). Even scholars who argued that skid row populations had been dispersed more
than eradicated did not foresee the change the 1980s brought (Hoch and Slayton 1989). Figure 3
shows the dramatic increases in the correctional and homeless populations that began in the early
1980s and perplexed researchers (Burt 1992; Mauer 1999). Both populations grew continuously
over this time period and both experienced a slight decrease around 2009. Like mass
imprisonment, contemporary homelessness remains prevalent; approximately 643,000
Americans are currently homeless (U.S. HUD 2010). Moreover, 7.4% or 13.5 million
Americans have been homeless in their lifetime (Link et al. 1994).
A central feature of the ‘new’ homeless was this population’s visibility. Previously, the homeless were either highly mobile (Anderson 1923) or shuttered from public view in single-room occupancy units (Hoch and Slayton 1989). Thus, not only did the homeless population grow tremendously in size, but it also became more visible (Rossi 1989). Despite the destruction of skid rows, the vast majority of the homeless continue to populate large urban areas, primarily central business districts (Duneier 1999; Lee and Farrell 2005). As a result, emergency homeless shelters sprang up to provide services to the homeless and shield them from public view. The McKinney-Vento Homeless Assistance Act designated substantial federal resources to the building and maintaining of emergency shelters across the country. Although scattered missions had provided services to the homeless for the past century, the implementation of emergency public shelters on this scale was unparalleled (Jencks 1994).

The similar trends in contemporary homelessness and mass imprisonment can be partially attributed to shared causes. Many of the same political and economic factors which influenced the prison boom also contributed to the rise in homelessness. One was the rolling back of the welfare state; as the safety net thinned and fewer legitimate sources of aid were available, growing poverty increased both homelessness and incarceration (Wacquant 2000; Wright 1989). Moreover, the shift from a manufacturing to a service based economy reduced the number of blue collar jobs that paid a living wage, which had previously employed these populations (Wilson 1987). The housing market also changed considerably. Gentrification and urban renewal decimated millions of single-room occupancy units in major cities (Hoch and Slayton 1989) and low income renters were priced out of housing built in its place, resulting in a shortage of low cost housing and a growing demand for such housing (Blau 1992; Burt 1992). Shifts in demographic composition also contributed; low skilled baby boomers in poverty presented an at-
risk population for both incarceration and homelessness (Western 2006; Wright, Rubin, and Devine 1998).

Two other historical events affected the increase in incarceration and homelessness: deinstitutionalization and the crack epidemic (Jencks 1994). The War on Drugs and the crack epidemic produced at-risk populations. While the deinstitutionalization of mental hospitals began in the late 1950s, it was not complete until the mid-1970s. Unfortunately, community based mental health treatment did not take form as planned, placing the mentally ill who would have been institutionalized in previous eras at-risk for homelessness and incarceration (American Psychiatric Association 2004; Jencks 1994; O’Flaherty 1996).

These macro level influences on contemporary incarceration and homelessness are illustrated in the overlapping characteristics of both populations. For instance, the incarcerated and homeless populations have similar demographic and personal characteristics (Metraux and Culhane 2004). In sharp contrast to homeless populations in previous eras, the ‘new’ homeless population is no longer mainly comprised of the disabled poor; instead it closely resembles the current penal population with an increasing number of blacks and younger men in their mid-30s (Hopper and Milburn 1996; Pettit and Western 2004). Additionally, both groups are residentially concentrated in inner city areas and characterized by high unemployment, low levels of education and disadvantaged backgrounds including poverty, physical and sexual abuse, and family conflict and instability (Burt et al. 2001; Lee and Farrell 2005; Uggen and Wakefield 2005). Finally, both the incarcerated and homeless populations exhibit notably high rates of mental illness and substance abuse (Burt et al. 2001; James and Glaze 2006; Mumola 1999). In sum, a number of features of the prison boom and contemporary homelessness converge. Inmates, former inmates, and the homeless are disproportionately young, male, black,
from disadvantaged backgrounds, and exhibit high levels of mental illness and substance abuse.

Prior Research

Social scientists have long studied American homelessness (e.g. Anderson 1923; Sutherland 1936), but the rise in contemporary homelessness stimulated renewed interest. The resulting body of research has been primarily concerned with documenting the prevalence, demographics, and disabilities of the current homeless population (see Lee, Tyler, and Wright 2010; Shlay and Rossi 1992 for detailed reviews). First, due to significant methodological challenges associated with counting this transient, often hidden population, more than a decade’s worth of research debated homeless population estimates. As confidence grew in the ability to estimate the size of the population, preoccupation with debating the prevalence of disabilities among the homeless reigned (e.g. Snow et al. 1986; Wright 1988). The medicalization of homelessness dominated for a period until structural arguments regained attention in the mid-1990s (Burt 1992). Over thirty years after the appearance of ‘new homelessness,’ most scholars agree that a macro-micro model of structural and personal characteristics is the best approach to understanding homelessness (Lee, Tyler, and Wright 2010).

Another key contribution to the homelessness literature was defining the different temporal forms of homelessness. Drawing on insights from qualitative research, Kuhn and Culhane (1998) found three types of homelessness in the general population: transitional, episodic, and chronic. In contrast to previous eras, the bulk of homelessness is considered transitional (80%). Individuals in this group stay only temporarily in shelters and often only once in their lifetime. Approximately 10% of the homeless cycle in and out (i.e. episodic) and another 10% are considered chronic, representing long-term homelessness. While the lines
between these groups sometimes blur (Wright, Rubin, and Devine 1998) and the number of groups may vary (McAllister, Lennon, and Kuang 2011), homelessness is certainly not a monolithic experience. Other work conceptualizes homelessness on a continuum, suggesting that as a person’s circumstances worsen, individuals become further entrenched in homelessness (Gowan 2002). On the opposite end of this continuum are the precariously housed, individuals who might be one personal crisis away from actual homelessness.

Like homelessness research in general, work on incarceration and homelessness has been slow to mature because of data limitations. Due to the difficulty associated with conducting follow-up surveys of the homeless, the majority of prior work uses cross-sectional surveys and convenience samples and focuses on prevalence estimates (see Shlay and Rossi 1992). Much work examines the criminalization of the homeless, or what Irwin (1985) terms “rabble management” (Metraux and Culhane 2006). Jail is used as a form of social control for the homeless; they are jailed for misdemeanor, primarily public disorder, offenses related to homelessness (Fischer 1992; Snow and Anderson 1993). In other words, the homeless are frequently arrested for their daily activities such as urinating in public, squatting, or “dumpster diving,” they spend a few nights in jail and then return to the streets and shelters. In contrast, far less research has considered the implications of prison time for homelessness (but see Gowan 2002; Metraux and Culhane 2004). A prison stay is the result of a felony, which is typically a crime punishable by a year or more in prison. Few crimes of the homeless can be classified as felonies.

Several recent studies have significantly improved our knowledge on the topic of incarceration and homelessness. Using data from the Fragile Families and Child Well-being Study, Geller and Curtis (2011) showed that ex-inmates experience greater housing instability
than males who have never been incarcerated. Regarding homelessness, males recently released from prison were approximately twice as likely to become homeless than never incarcerated males. Further, males who had ever been incarcerated were four times more likely to experience homelessness than those with no incarceration history. Notably, these findings held net of prior disadvantage and housing instability. Ex-inmates were also more likely to move frequently and rely on others to pay the rent than never-incarcerated males. The authors showed that reductions in earnings and restrictions to public housing post-release explained a small portion of these relationships. While much work remains to be done, this study significantly advanced the literature by demonstrating that ex-inmates are more likely to become homeless than similarly disadvantaged men.

Other researchers have leveraged administrative data to examine shelter use among ex-inmates. Metraux and Culhane (2004) found that approximately 11.4% of individuals released from New York state prisons utilized New York City shelters during the first two years post release. Their results also showed that blacks, males, and older ex-inmates are more likely to become homeless, as are individuals with a criminal history and individuals released on parole. Further, the results supplied evidence of the “revolving door” effect; ex-inmates who had been homeless prior to their incarceration were more likely to become homeless after release. Notably, over half of shelter stays occurred within the first 30 days post-release, which led the authors to conclude that homelessness is primarily a reentry problem. In this view, homelessness among ex-inmates is an obstacle experienced immediately after release; individuals temporarily rely on homeless shelters post-release while they secure employment and more stable housing. By specifying the precise timing of homelessness among ex-inmates post-release, this study was an important contribution to our understanding of incarceration and homelessness.
Drawing on five years of ethnographic work in two cities, Gowan (2002) concluded that incarceration creates and reinforces homelessness. She observed that, although most men’s lives were not without hardship prior to imprisonment, incarceration exerted a powerful downward push into lasting poverty. Moreover, interviewees named the stigma of incarceration as a major factor associated with homelessness; many could not endure interactions with potential employers, landlords, and society in general. Gowan also noted that many of her interviewees did not experience homelessness until years after release. Consistent with research from the Returning Home studies, most ex-inmates have a place to go immediately after release (LaVigne, Visher, and Castro 2004), but over time, they wore out their welcome at various family and friends homes’ and experienced delayed homelessness. Gowan’s research advanced existing knowledge by detailing the severe social exclusion that results when homelessness and ex-inmate statuses are combined and by suggesting that homelessness is more than an immediate, temporary problem for ex-inmates.

Although recent work has improved our knowledge of the intersection of incarceration and homelessness, several significant gaps remain. First, the data that has been collected has not followed individuals released from prison for enough time to examine whether homelessness is solely a reentry problem or extends further. To date, homelessness has been characterized as a reentry problem (e.g. Petersilia 2003; Roman and Travis 2006; Travis 2005). Yet given Gowan’s (2002) ethnographic descriptions and the direct and collateral consequences of incarceration, there is reason to believe ex-inmates may also become homeless much later. For instance, most individuals stay with family immediately after release (LaVigne, Visher, and Castro 2004), but that goodwill may run out as ex-inmates are unable to contribute to household expenses while struggling to find employment. Similarly, the family and ex-inmate may learn over time that the
bonds damaged by incarceration are irreparable or that partners are no longer compatible (Massoglia, Remster, and King 2011). Another possibility is that as ex-inmates age, they are no longer able to perform the manual labor jobs they once held. Thus, a longer observation period is needed to determine whether homelessness is a temporary reentry problem, an enduring risk, or both, depending on the individual.

Second, prior research has not examined the nature of homelessness among ex-inmates. Research to date has focused on the occurrence (Geller and Curtis 2011) and the timing of homelessness after release (Metraux and Culhane 2004), but beyond this little is known about ex-inmates’ homelessness. For instance, how long were they homeless? How many times did they become homeless? Moreover, to what degree does the nature of homelessness vary among ex-inmates? Because of the heterogeneous nature of correctional populations and their varying vulnerabilities, there is reason to think that housing difficulties may vary in magnitude and timing across inmates. For instance, some may rely on homeless shelters immediately for a short period and then quickly establish stable housing, while others may have long term and ongoing housing problems that are reflected in many shelter stays. Still others may experience a lengthy period of homelessness for the first time years later. Understanding and addressing the housing problems of returning inmates calls for knowing when homelessness begins, how long people stay homeless, and how many spells of homelessness they experience. Moreover, prior research may have missed a significant portion of the picture of homelessness among ex-inmates by focusing on the first shelter stay post-release.

Third, the risk factors for homelessness among inmates as well as risk factors associated with specific patterns of homelessness remain elusive. The homelessness literature suggests that personal vulnerabilities, institutional experiences, and inadequate buffers are the primary
individual level causes of homelessness (Lee, Tyler, and Wright 2010). Yet data limitations have prevented research from examining how such factors affect homelessness among ex-inmates. For instance, prevalence studies indicate that both the homeless and incarcerated populations experience inordinately high rates of mental illness and substance use, but research has not been able to address whether these key individual pathologies predict who becomes homeless among ex-offenders as well as whether they explain variation in homelessness patterns (Burt et al. 2001; James and Glaze 2006). Are those with substance dependence more likely to have lengthy shelter stays or a series of short stays over the observation period? Similarly, social bonds that serve as protective factors for homelessness have not been examined. Perhaps marriage reduces immediate homelessness but difficulty finding work damages relationships and leads to delayed homelessness. Understanding how individual characteristics affect patterns of homelessness and which factors predict who becomes homeless among former inmates will help target and design services suited to those most at risk for homelessness.

This dissertation will fill these three voids in existing research regarding the length of the follow-up period, characteristics of ex-inmates’ homelessness, and risk factors for homelessness among ex-inmates. Before I detail the research questions which address these issues, I first elaborate on the theoretical foundation for this study.

*Theoretical Perspectives for Understanding Homelessness among Ex-Inmates*

Several theoretical perspectives inform this research, including themes from the life course and stratification literatures.

**Life Course**

A life course approach emphasizes the influence of social context on individual lives.
Elder (1975). Elder (1994) specified four components that impact individual development. The first influence is historical. As Elder (1986) argued about World War II, Western (2006) suggests that the incarceration boom is a historically significant event that shaped a generation of men’s lives. Males born in the late 1960s were incarcerated at considerably higher rates than cohorts before them. Indeed, black males in this cohort are more likely to be incarcerated than graduate from college (Pettit and Western 2004). Incarceration on this scale led scholars to contemplate the role of incarceration in the life course. Similar to other key life events, a spell of incarceration can redirect the life course (Pettit and Western 2004). Individuals entering prison are often already off time from juvenile incarceration and weak bonds to work and family. Incarceration further delays entry into conventional adult roles and the consequences of incarceration may cause disruption (Sampson and Laub 1997). For instance, research has conceptualized incarceration as a major life event to explain incarceration’s effects on health (Massoglia 2008a; 2008b). Like job loss or divorce, incarceration affects numerous life domains.

In the present study, I conceptualize incarceration as a key life event and examine the extent to which incarceration restructures a central part of ex-inmates’ lives, namely their residential circumstances, as manifested in the form of homelessness. The incarceration boom produces a population at-risk for homelessness: approximately 690,000 individuals exit prison annually and there are another four million ex-inmates in the general population (Carson and Sabol 2012; Uggen, Manza, Thompson 2006).

The timing of individual lives is the second element of the life course paradigm, which stresses the temporal, age-graded aspect of events in individual lives, specifically the incidence, timing, and duration of events. I draw on this principle to conceptualize homelessness among
ex-inmates. I detail my measurement strategy in Chapter 5, but I focus on the timing, duration, and age of onset as well as homelessness history to understand the nature of homelessness among ex-inmates. Third is the idea of linked lives, that an individual’s social world is connected to his family and friends. The presence and strength of social ties may buffer ex-inmates from homelessness; hence I include an indicator for ties in my analyses.

Finally, while individuals’ lives are embedded within cultures, institutions, and social change, a life course approach also notes the influence of human agency. Like all people, ex-inmates make choices which ultimately contribute to their risk of homelessness and shape their life trajectories, but most scholars view homelessness as a highly constrained choice at best (e.g. Dordick 1997). As I will detail in my data description in Chapter 3, homelessness is essentially a last resort for ex-inmates in this sample. I measure homelessness through the use of the shelter system, which only admits those who truly have nowhere else to; hence there is little “choice” left for ex-inmates at this point regarding housing options.

The life course paradigm also acknowledges the influence of cumulative disadvantage (Elder 1998). The notion of cumulative disadvantage encompasses the influence of multiple risk factors that increase housing instability among ex-inmates and views them as interconnected rather than independent. In general, scholars argue that sources of disadvantage are best understood as cumulative and interactive (Sampson and Laub 1997). Moreover, risk factors are not uncommon among ex-inmates; approximately 68% of inmates in state prisons did not have a high school diploma, 24% had mental health problems (were recently diagnosed or currently receiving treatment), and 57% reported using drugs in the month prior to their incarceration (Harlow 2003; James and Glaze 2006; Mumola 1999).

The idea of cumulative disadvantage also acknowledges the potential influence of pre-
prison characteristics on reintegration challenges. Approximately 50% of prisoners fell below the federal poverty line in 1998 (Wheelock and Uggen 2008). Wheelock and Uggen (2008, 261) argue that incarceration “sustains and exacerbates” prior disadvantages which further entrench inmates, their families, and communities in poverty. For example, Western (2002) suggests that incarceration amplifies individuals’ education and vocational deficits. One way incarceration reinforces existing disadvantages is through reintegration challenges. By preventing ex-inmates from fully participating in social institutions that facilitate reintegration, incarceration may strengthen disadvantaged trajectories already in place and make reintegration particularly difficult.

**Incarceration as Stratification**

Another part of understanding the reintegration process, and thus ex-inmates’ risk of homelessness, is the treatment they receive as a status group in society. The size and scope of the penal system and the myriad of consequences associated with imprisonment have led scholars to consider prison as a new institution of stratification (Western 2006). Indeed, experts argue that the penal system “has emerged as a powerful and often invisible institution that drives and shapes social inequality” (Wakefield and Uggen 2010, 401, see also Western 2006). Prior to the prison boom, researchers examined individuals’ unequal selection into prison; prisons have historically housed the poor, the unskilled, and minorities (see Wakefield and Uggen 2010). However, America’s recent experiment in mass imprisonment has shifted scholars’ attention to prisoners’ life chances after release. Research now indicates that stratification processes influence both who goes to prison and their fate after release (Wakefield and Uggen 2010). Essentially, imprisonment itself is a form of inequality which cascades into multiple forms of inequality post-release. In a relatively brief amount of time, incarceration has become a
dominant mechanism of stratification in the United States. Moreover, scholars emphasize the penal system’s similarities to other stratifying institutions such as the educational system and labor market (Massoglia 2008a). Prisons, schools, and the labor market “sort and stratify social actors” into groups differentially associated with various life chances (Wakefield and Uggen 2010, 389). Understanding how incarceration contributes to inequality is a pressing concern, because in addition to reinforcing current privilege and disadvantage, inequality also affects the next generation, through attainment, health, and political processes (Neckerman and Torche 2007). Further, inequality damages social cohesion and strengthens barriers between groups, such as ex-prisoners and the general population.

Scholars draw on classic stratification theory to understand how ex-prisoners fare in society. Labeled the “felon class,” current and former inmates comprise approximately 5.5% of all adult males and 17% of black adult males (Uggen, Manza, and Thompson 2006). Wakefield and Uggen (2010) argue that ex-inmates are best theorized as a Weberian status group. Status groups share a mark of [dis]honor which affects life chances (Weber 2008). As a group of individuals within a larger population, a status group enjoys a particular level of prestige by virtue of their position. In contrast to a “class,” a status group does not share a distinct economic status. Similarly, the “mark” of a criminal record is not strong enough to classify ex-inmates as a caste, because ex-inmates are not physically identifiable to the public (Pager 2003; Wakefield and Uggen 2010). Moreover, Weber’s concept of “parties” is specific to the distribution of social power, whereas status groups are broader. Thus the concept of a status group facilitates our understanding of how the penal system churns out individuals who share much in common. This group has limited political privileges, elevated risks of health and familial issues, and employment and vocational difficulties. They are also often financially burdened with
staggering amounts of legal debt (Harris, Evans, and Beckett 2010). Research suggests that having had any contact with the penal system is more important than the length of contact (Schnittker and John 2007), indicating that these challenges are widely shared.

Pager (2009) further develops the idea of incarceration imposing a certain status on individuals. She characterizes incarceration as a “negative credential.” Credentials are a major form of contemporary stratification in the United States (Collins 1979; Pager 2009). In the past, ascribed characteristics such as race, sex, and social class were the primary credentials. However, the rise of education coincided with the growing importance of achieved characteristics, ranging from vocational certificates to college degrees; Americans desire and value credentials. Pager shifts attention from positive credentials, which qualify individuals for jobs, to what devalues individuals, in this case, an incarceration history. She shows that past incarceration is a negative credential with considerable implications in the labor market; the likelihood of receiving a callback from an employer is dramatically reduced for individuals with a criminal record (Pager 2003).

Incarceration may also be a strong negative credential in the housing market, both public and private. The bulk of the housing market is private and the lack of affordable housing in urban areas is problematic for millions of Americans, not just ex-inmates. The number of affordable rental units for poor families significantly declined from the 1980s to 1990s and in 1999 there were 39 affordable units for every 100 poor renters (Sard and Waller 2002; Travis 2005). Also known as the housing squeeze, these circumstances have afforded landlords considerable power in tenant selection. Like employers, landlords can legally discriminate on the basis of a criminal record, and access to such information is now commonplace. For instance, Helfgott (1997) found that most Seattle landlords inquired about criminal history on
rental applications and 43% reported they would likely reject an applicant for a criminal conviction. Hence the “mark” of a criminal record may be an easy way to winnow big applicant pools. Furthermore, while many ex-inmates may not be able to afford a security deposit for an apartment on their own, pooling resources with other ex-inmates would violate the conditions of their parole and most are on parole.

Ex-inmates also face negative credentialing in the subsidized market. Research indicates that approximately one quarter of inmates lived in public housing prior to their incarceration (Travis 2005); however, many are prohibited from returning. Most public housing authorities have “one strike” rules or “discretionary eviction” for non-criminal disruptive behavior, meaning that a guest or household member’s misbehavior places the entire family at risk of eviction. In one case, a Pennsylvania woman was evicted because her son was arrested for possession with intent to deliver (Pittsburgh v. Fields 2003). Because these are civil petitions, the burden of proof is comparatively low and discretion high, resulting in a risk families judge they simply cannot afford. Despite the risk, 29% of families in a public housing project in Chicago reported the recent or expected return of an inmate in the next nine months. Importantly, nearly half of these families did not want the inmate to live with them, but said they would not evict the person (Venkatesh 2002). For states that allow ex-inmates to apply for public housing, waiting lists can be years long. Other reintegration challenges, also influenced by negative credentials, further complicate the process of securing stable housing.

[FIGURE 4 ABOUT HERE]

In sum, a variety of theoretical traditions, ranging from the consequences of incarceration reviewed in Chapter 1 to the powerful negative credential of imprisonment offer rationale for understanding homelessness among former inmates. Figure 4 presents a conceptual model of
these factors, all of which may increase or decrease the risk of homelessness and patterns of homelessness. First, the incarceration boom is the macro level force that places an unprecedented number of individuals exiting prison at risk for homelessness. As I discussed earlier, a range of social forces produce this at-risk population. Political and economic factors such as the weakening of the social safety net, the shift from a manufacturing to a service economy, the housing squeeze, reactions to the civil rights movement, attitudes toward rehabilitation, and fear of crime all contributed to the prison boom, resulting in nearly 700,000 individuals exiting prison annually.

Progressing through Figure 4, next are the micro level theoretical factors which affect patterns of homelessness among ex-inmates. Along the top of the diagram is a box representing personal vulnerabilities. These vulnerabilities include mental illness, drug abuse, and cumulative disadvantage, all of which increase the likelihood and intensity of homelessness. Institutional experiences (the next box) such as history of incarceration or homelessness also increase the homelessness patterns post-release.

Along the bottom of Figure 4 are two additional sets of micro-level influences: collateral consequences and buffers. Collateral consequences include the reintegration challenges that stem from the consequences and sanctions associated with incarceration. For instance, vocational deficits, employment history gaps, tenuous social ties, and the stigma of incarceration all increase the risk of homelessness. Laws prohibiting ex-inmates from [re]joining their families in public housing and the negative credential of an incarceration history also contribute. In contrast to collateral consequences, buffers, the next block along the bottom of Figure 4, are factors which decrease the risk of homelessness. Buffers include social support, employment, vocational training, and other resources, such as having a parole officer.
Together these macro and micro level factors, adapted from Lee and colleagues’ (2010) macro-micro model of homelessness in the general population, influence whether ex-inmates become homeless and their subsequent patterns of homelessness.

Research Questions

In this dissertation, I employ a life course perspective to investigate the nature of homelessness among individuals leaving prison. By assessing acute residential instability among those individuals, I examine the extent to which incarceration disrupts people’s lives. Merton (1987) argues that before we can explain a phenomenon, we must first document its defining characteristics, and my focus is on this essential first step. Thus, the central goal of this research is to specify the nature of homelessness among ex-inmates and I do so with the following questions. Because this research is largely exploratory, I refrain from formulating hypotheses about the nature of specific relationships and proceed in a descriptive fashion.

1. **How does the risk of homelessness among ex-inmates vary over time after release?**
   A primary objective of this research is establishing the risk of homelessness among ex-inmates over an eight year period post-release, which will significantly expand beyond the two year period covered in prior work. Doing so will resolve the key questions surrounding the timing of homelessness post-release, namely, whether homelessness is a temporary reentry issue, a long term challenge, or both.

2. **What are the risk factors for homelessness among ex-inmates?**
   A range of explanatory factors have been proposed in the existing literature, but data limitations have precluded empirical analysis. By establishing a set of risk factors for homelessness among ex-inmates, services can be tailored and targeted toward those most at risk of homelessness.

3. **Are there distinct patterns of homelessness among ex-inmates?**
   The third objective of this research is to examine characteristics of homelessness among ex-inmates. Prior research has been limited to dichotomous measures of whether ex-inmates experienced homelessness. Building on such work, the present research will provide a more complete picture of homelessness experiences post-release by incorporating the number, length and timing of homeless spells.
4. **Are risk factors differentially associated with different patterns of homelessness among ex-inmates?**
   Since existing research has not examined patterns of homelessness among ex-inmates, we also do not know whether specific individual characteristics are associated with specific patterns. Knowledge of such information will help define what sorts of services are needed and when. For instance: are individuals who experience lengthy bouts of homelessness more likely to have mental health problems than individuals with one short spell? In this portion of the project, I intend to examine whether specific risk factors are differentially associated with the patterns of homelessness identified in question 3.

**Summary**

In this chapter I have highlighted the similar characteristics of incarceration and homelessness in the contemporary United States, emphasizing shared time trends, macro level causes, and socio demographic and personal characteristics of the homeless and correctional populations. I also describe how I will fill holes in existing research by assessing the risk of homelessness among ex-inmates over an eight-year period, examining whether there are unique patterns of homelessness among ex-inmates, and identifying risk factors for homelessness and specific patterns of homelessness among ex-inmates. I have laid out a theoretical model of potential factors in the risk of homelessness and patterns of homelessness among ex-inmates, focusing on the combination of macro and micro level influences including the prison boom, personal vulnerabilities, previous institutional experiences, and so-called buffers. In the next chapter I describe the data and methods I use to test this framework.
CHAPTER 3. DATA, MEASUREMENT, AND ANALYTIC STRATEGY

Research Setting

Before I describe the data and methods used to test these research questions, a more detailed description of inmates’ prerelease preparation is in order. The reentry literature characterizes the lack of prerelease preparation and the release process itself as a central problem in the reintegration of ex-inmates (e.g. Petersilia 2003). Inadequate preparation for the transition from prison to community disadvantages inmates before they set foot outside prison walls. Prerelease preparation and release processes vary across states, but little is known about them, which Petersilia (2003) argues is indicative of America’s focus on locking people up rather than letting them out. Further, over 95% are eventually released (West and Sabol 2008).

In this dissertation, I use data on individuals exiting Pennsylvania state prisons, so Pennsylvania’s release preparation processes are critical to understanding my samples’ risk of homelessness post-release. From the limited information available, Pennsylvania appears to fall among the more generous states regarding efforts to facilitate reentry (Petersilia 2003). Hence, my research provides conservative estimates of homelessness among ex-inmates. According to the Pennsylvania Department of Corrections’ release process policy (PADOC 2006a), preparation for release begins shortly after inmates arrive at their institution. Whether or how well these policies are implemented in prisons is unknown; however, the PADOC specifies the following protocol. Within three weeks of admittance, every inmate who is not a capital case or serving a life sentence meets with a corrections counselor to begin the Reentry Planning Checklist. The first step is to determine whether the inmate has a driver’s license, birth certificate, and a social security card and to outline a general plan to prepare the inmate for parole and release. If the inmate does not possess these forms of identification, the process to
obtain them begins. At minimum, inmates must have a state identification card for release, because inmates receive the balance of their prison account in the form of a check and need identification to cash it (McCullough 2013, personal communication). Every inmate has a prison account and they earn funds from their in-prison jobs to spend at the commissary on toiletries, snacks, cigarettes, etc. or to save for release. At this initial reentry planning meeting, inmates are encouraged to begin saving 10% of their prison account for reentry purposes. At this time inmates are also screened for eligibility for Supplemental Security Income (SSI), Social Security Disability Income (SSDI), Social Security Retirement Benefits, or veterans benefits. If inmates qualify for any of these programs, they begin the application process.

PADOC offers several programs intended to prepare inmates for reentry. Educational services and alcohol and drug treatment programs are the most common, though the availability and length of these programs fluctuates because they are dependent on the annual budget. PADOC policy (2011) requires that each prison have a school, which is run by a principal who coordinates a variety of services including academic education, vocational education, special education and educational testing (e.g. GED). Class size is limited to 20 students and there are often long waiting lists. Inmates within five years of their release date receive first priority for attending any programs. Eligibility for substance treatment is determined at intake (PADOC 2006b). Inmates assessed with drug abuse (a score of 3-5) are eligible for outpatient programming which lasts between eight and twelve weeks, and individuals assessed as dependent are eligible to live in a therapeutic community (a prison ward allocated for treatment). The treatment model used in both outpatient and live-in programs draws on elements of change theory, motivational enhancement theory, cognitive behavioral theory, and social learning theories. The model’s objective is to address criminogenic risks and needs as well as to correct
criminal thinking and modify antisocial behavior and attitudes. Inmates attend individual and group sessions emphasizing these themes.

More specific release planning happens shortly before release. One month before release dates, a corrections counselor meets with each inmate and provides information and counseling pertinent to returning to the community. The inmate’s needs, financial status, and strengths and weaknesses regarding his reentry are also reviewed (PADOC 2006a). Inmates with physical and mental health problems are referred to counselors who attempt to coordinate appointments or contacts with appropriate health services in the area to which the inmate is returning after release. The facility’s physician or Psychiatric Review Team often plays a role in this part of the transition.

PADOC also offers a prerelease program, called the Community Orientation and Reintegration Program (COR). In just two weeks, critical reintegration issues are covered including: job readiness and retention, relapse prevention plans, pro-social responses to conflict situations, decision making and problem solving skills, effective parenting skills, effective communication skills, and financial management (PADOC 2006a). No data are available on program size or enrollment.

When the day of release arrives, individuals receive the balance (if any) of their prison account, valid identification, and a bus ticket. Individuals taking medication are given a ten day supply of their prescriptions. There are two clothing options: a “prison suit,” a cheaply made, low quality suit or “prison blues” (i.e. inmate uniform). Most inmates prefer their “prison blues” (McCullough 2013, personal communication). Pennsylvania does not provide “gate money.” Unlike jails, which are notorious for discharging inmates at odd hours, PA state prisons release inmates based on the bus schedule. Corrections officers drive them to the nearest bus station in
time to catch the earliest bus. Inmates receive bus tickets to the county they originated from. Individuals can also be picked up at the institution any time after eight in the morning.

In short, Pennsylvania has prerelease programming and preparation policies in place. While these policies may not seem like much, PA falls among the more generous states regarding prerelease preparation, suggesting that the present analysis will yield conservative estimates of homelessness among ex-inmates. Ideally, inmates receive treatment for their physical and mental illnesses as well as substance issues. There are education programs available too. Individuals exit prison with some form of legal identification, a bus ticket, and perhaps a small check for their prison wages. They arrive in their home county wearing clothes that readily identify them as ex-prisoners. This is where the current research begins. From the moment ex-inmates step off the bus, they are at risk for homelessness. The obstacles facing them are numerous and daunting.

Data Description

This dissertation draws on administrative data to gain detailed information on homelessness over time among ex-inmates. Different agencies possess records of incarceration and records of homelessness; however no master database combines them. I have assembled a unique dataset which includes administrative records from three separate agencies. The first data source is the Pennsylvania Department of Corrections (PADOC), which defined the population of inmates whose homelessness I could track overtime. The PADOC provided information on a recent cohort of individuals released from PA state prisons between 1999 and 2002 to Philadelphia. Individuals were either paroled to Philadelphia (71%) or if they completed their full sentence, originated from Philadelphia. The PADOC data also include information on re-
incarcerations in PA state prisons for new offenses and parole violations through 2010 as well as a range of theoretically and empirically important constructs needed to understand the risk of homelessness among ex-inmates.

With Dr. Stephen Metraux’s assistance, these individuals’ records were then matched with data from the city of Philadelphia’s Office of Supportive Housing (OSH), which provided information on who became homeless in Philadelphia. The OSH maintains Philadelphia’s Homeless Management Information System (HMIS) which tracks individuals’ homeless shelter usage. The HMIS data covers approximately 85% of shelter beds in Philadelphia (Culhane et al. 1994), with an annual census of about 9,500 single adults, and includes shelters run by non-profit organizations and the City of Philadelphia, which contracts shelter management to private companies. The matching was completed using software that performs both probabilistic and deterministic matches based on social security numbers, name, sex, and date of birth. Requiring that records match on all four categories is considered a stringent strategy, meaning that these data will produce conservative estimates of homelessness. Metraux’s data access and prior experience with matching these data were critical in this process.

The final data source is the Pennsylvania Commission on Sentencing (PCS). The PCS data contains information on all convictions in Pennsylvania from 1999 through 2010, with two exceptions: sentences from Philadelphia Municipal Court and district magistrates are not included. While the PADOC data provides information on state re-incarcerations, the PCS data add convictions in Pennsylvania that did not involve incarceration in state correctional facilities (i.e. jail spells). Matching on Pennsylvania inmate identifiers, the PCS data contributes valuable information for defining when ex-inmates are at risk for homelessness. Together, these three data sources allow me to examine homelessness among a recent cohort of ex-inmates for almost
eight years post release.

Sample Description

The eligible sample consists of 12,453 individuals released to Philadelphia or originated from Philadelphia between 1999 and 2002. The sample was limited to males (N=11,849) because the reentry process and pathways to homelessness differ for males and females (Passaro 1996; Richie 2001). Historically, single adult males are eligible for the least amount of aid while females often have dependents or are victims of domestic violence, affecting the shelter options and aid available to them. Moreover, males comprise the bulk of correctional and homeless populations; approximately 96% of Pennsylvania state prisoners in 1999 were male (Beck 2000; Burt et al. 2001).

The analytic sample for the first portion of the analysis which examines homelessness among ex-inmates released from Pennsylvania to Philadelphia from 1999 to 2002 consists of 11,849 males. Building on Part I, Part II restricts the sample to only those ex-inmates who became homeless, to examine patterns of homelessness overtime. In this sample, 990 males became homeless in the first 94 months following release. Below I describe how homelessness is measured before describing the measurement of four blocks of independent variables included in the analysis: health behaviors, socio demographic characteristics, characteristics of individuals’ index stay in prison, and prior behaviors such as homelessness history and incarceration history.

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1 Multiple imputation was used to handle missing values for all independent variables included in the analysis (Allison 2001). Each indicator had less than 8% missing, with the exception of the drug use index (35%), because it was not administered to all entering inmates until 2001, resulting in two different forms of missingness on this measure. The high missing on drug use in cohorts that entered in 1999 and 2000 is due to whether the intake counselor administered the survey, whereas individuals missing on drug use that entered in 2001 or 2002 chose not to answer, representing the more traditional missingness researchers are concerned with. When the listwise and imputed results for the 1999 and 2000 cohorts were compared to the 2001 and 2002 cohorts, there were no meaningful differences. Thus the full imputed sample was used in the analyses that follow.
Measurement

Dependent Variable: Emergency Shelter Use

I measure homelessness with shelter usage, following the precedent of the bulk of quantitative work on homelessness (e.g. Culhane et al. 1994). Philadelphia’s Homeless Management Information System (HMIS) records the date each time a person checks in and out of a shelter in the system. In Philadelphia, a person can enter a shelter 24 hours a day, no identification required. If s/he checks in during non-business hours, s/he meets with an intake worker at a later date. In addition to taking down basic background information, the intake process confirms that the person has no other housing options, such as friends or relatives. If a person is homeless due to a domestic dispute, the intake worker attempts to mediate the situation. To preserve beds for those with the greatest need, intake workers make an effort to restrict admittance to those with few options. There is no time limit on the length of stays; however case workers encourage clients to develop long term plans for exiting homelessness. HMIS shelters reach maximum capacity a few days each year and hotel vouchers are sometimes available during these crises. All this information suggests that my measure of shelter usage is a valid proxy for homelessness in Philadelphia.

In this project, I measure homelessness in multiple ways, depending on the research questions at hand. When I examine the timing of homelessness post-release, homelessness is measured as the number of days post-release until a person becomes homeless. Whereas when I investigate the patterns of homelessness, I draw on the total number of homeless spells, the total duration of homelessness, homelessness history, and point of shelter entry post-release during the 94 month observation period, which I detail in my analytic strategy.
Independent Variables

*Mental health.* The Pennsylvania Department of Corrections (PADOC) is the source of the mental health measure. At intake, every inmate is interviewed and given a psychological assessment that includes basic psychometric testing. An inmate with evidence of mental illness receives a comprehensive psychiatric evaluation by a psychiatrist or certified registered nurse practitioner and the Psychiatric Review Team generates an individual treatment plan. Post-intake assessment, counselors and staff members can refer inmates to the facility’s psychological department if they suspect mental health issues. Inmates can directly schedule appointments with psychological services too.

The Psychiatric Review Team classifies individuals with mental health problems into two groups: the Psychiatric Review Team (PRT) roster, which consists of individuals with severe mental health issues receiving intensive services, and the Mental Health/Mental Retardation (MH/MR) roster, a less intense, clinically stable group actively receiving mental health services. Scenarios requiring mandatory placement on a roster include: diagnosis of a serious mental illness, a history of outpatient treatment or inpatient psychiatric hospitalization within the past year, a history of suicide attempt within the last two years, mental retardation, receiving psychotropic medication, or convicted as guilty but mentally ill by the state of Pennsylvania.

All inmates on the PRT roster and the vast majority of those on the MH/MR roster have been diagnosed with a serious mental illness and are receiving medication along with other medical health services. The PADOC defines mental illness as “a substantial disorder of thought or mood which significantly impairs judgment, behavior, and capacity to recognize reality, or cope with the ordinary demands of life” (PADOC 2004, 2-1). The key distinctions between the PRT and MH/MR roster are stability and oversight. Less stable inmates who need to be seen
every 30 days are on the PRT roster whereas the MH/MR roster inmates are seen every 90 days, because they are considered medically compliant and stable. The PADOC administers two classes of medication: psychotropic drugs and antidepressants and does not allow medication for anxiety or sleep disorders.

I include dummy indicators for the PRT and MH/MR rosters in the analysis. These rosters are updated every 30 days, thus the measures represent inmates actively receiving mental health treatment at the time of release. Additionally, these two measures capture individuals who require regular, ongoing attention by the psychiatric and psychological staff; they do not capture poor adjustment to facility life or other common problems associated with incarceration such as difficulty sleeping. Further, because placement is determined by clinicians at intake, these measures represent the vast majority of mental illness in this population. Intake counselors also assess inmates’ physical appearance and general coherence in the interview, which can result in roster placement for some who might not disclose mental health problems on their own. The PADOC cannot force inmates to take their medication or receive other services unless they were legally committed. While medication compliance can be an ongoing issue for some individuals with mental illness, roster membership ensures that they are monitored by clinicians throughout their incarceration.

**Drug use.** This analysis measures drug use severity with the Texas Christian University Drug Screen II (TCU), which is administered at intake by a drug and alcohol counselor and references drug use in the year prior to incarceration. This instrument was specifically designed to measure drug use in correctional populations and subsequently validated on inmate populations. Research demonstrates that it has good psychometric properties as well as satisfactory internal consistency and reliability (Knight, Simpson & Morey 2002). The TCU
index is a summative score of nine yes/no questions. The questions and their specific wording appear in the Appendix. Scores range from 0 to 9, with a score of 1-3 indicating the presence of substance abuse and a score over 3 indicating dependence. Dummy variables representing abuse and dependence will be included in the analysis, with the reference group representing individuals with no substance related issues.

*Physical health.* BMI serves as a proxy for physical health status. Information on inmates’ height and weight, collected by the PADOC at intake, was used to calculate BMI scores and categorize them into four groups: underweight, normal weight, overweight and obese (CDC 2013). Indicators for underweight, overweight, and obese are included in the models, with normal weight serving as the reference group. Research shows that BMI is highly correlated with physical health (Doll, Petersen, and Stewart-Brown 2000; Lean, Han, and Seidell 1999). For instance, overweight and obese individuals have an increased risk of many diseases such as hypertension, diabetes, heart disease, and stroke, as well as poor physical well-being and health limitations like difficulty performing basic daily physical activities. Poor physical health increases the risk of homelessness because employment, particularly for the manual labor jobs that ex-inmates might be eligible for, is dependent on health.

*Marital status.* Social support facilitates reintegration and reduces the risk of homelessness. The dummy indicator for whether inmates were married was collected by the PADOC at intake. While inmates are at increased risk for divorce (Lopoo and Western 2005), damaged or weak social ties are better than none.

*Education.* The highest level of education was recorded by the PADOC at intake. Low educational attainment increases the risk of homelessness and incarceration itself contributes to low attainment. By removing individuals from the labor market, incarceration creates gaps in
employment histories and, in combination with limited vocational skills, increases the risk of homelessness. Given the low educational attainment in this population, indicators for achieving a high school degree and more than a high school degree will be included in the analysis. The reference group represents individuals with less than a high school diploma.

**Age.** Age is a risk factor for homelessness; single adults are at the greatest risk of homelessness between ages 34 and 51 (Culhane et al. 2013). In old age government benefits kick in, lifting people out of homelessness or preventing homelessness among aging populations. Premature mortality also explains the low number of old homeless people. The average age at release is approximately 35 (Uggen and Wakefield 2005), which suggests that individuals exiting prison are especially prone to homelessness. Age at release is measured using the PADOC’s records on inmates’ date of birth and release dates.

**Race.** African Americans are overrepresented in the correctional population (Uggen, Manza, and Thompson 2006) as well as the homeless population (Burt et al. 2001). Given that there is relatively little racial and ethnic variation in Pennsylvania’s correctional population (Beck 2000), an indicator for African American status will be included in the analysis.

**Index offense.** To address the heterogeneous nature of correctional populations, this analysis controls for a variety of characteristics related to individuals’ index incarceration spell, in addition to the socio demographic characteristics noted above. Fortunately, the PADOC maintains detailed records on these characteristics, one being the offense individuals were incarcerated for (i.e. index offense). Using the Uniform Crime Report’s violent crime definition (aggravated assault, forcible rape, murder, and robbery), offenses were grouped into violent versus nonviolent offenses; a dummy variable representing violent index offenses will be included in the analyses.
Index parole violation. Another characteristic controlled for is whether individuals were released between 1999 and 2002 because they had been serving time for a parole violation. The reference group for this dummy indicator is individuals serving time for a new offense.

Index sentence length. Because offense severity and sentence length are strongly associated, sentence length is used as a proxy for offense seriousness in the present analysis (see Spohn 2000). It is measured in years by subtracting the commitment date (when individuals entered a state facility) and the release date. Due to its large range, the measure was centered prior to the analyses to facilitate interpretation.

Incarceration history. The PADOC maintains records on up to six previous incarcerations, which usually include out of state sentences too. The incarceration history is a scale ranging from zero to six representing the number of previous incarcerations.

Index release disposition. Inmates are discharged from PA state prisons under one of two dispositions: they either receive parole or serve their full sentence. To receive parole a person must have a home plan (a place to live) and a prison record free of serious or frequent behavioral problems. Inmates primarily serve their full sentence for a combination of three reasons: 1) they committed several prison infractions, 2) are viewed as a threat to the community by the parole board, or 3) cannot assemble a home plan. It is worth noting that a very small portion of those who max out elect to serve their full sentence in order to go off “paper” when released, meaning that they prefer to be released without further monitoring by the criminal justice system (McCullough 2013, personal communication). Regardless of the reason, individuals who serve their full sentence exit the criminal justice system when they leave prison. In contrast, parolees must adhere to strict rules post-release, such as reporting to their parole officer at pre-specified times, passing drug tests, and obeying residency restrictions or risk re-incarceration. In general,
those who complete their full sentence are viewed as problem inmates by prison officials and yet ironically are released without supervision. An indicator for full sentence served will be included in the analysis.

**Release date.** The year inmates were released is used to capture potential period effects. For instance, the macro level context of this study’s observation period may have an influence on homelessness, as it spans the end of the economic boom and then bust. However, there were no pilot programs or other aid unique to specific months or years of the observation period. Dummy indicators, originally recorded by the PADOC, are included to adjust for the year of release.

**Homelessness history.** A person who was homeless before he went to prison may be at an increased risk for homelessness post-release. Thus prior homelessness is included in both portions of the analysis. Prior homelessness was created from HMIS records, which date back to 1995, when the system was implemented. Philadelphia began maintaining longitudinal records in 1995 soon after the shift to the Continuum of Care (COC) model to address homelessness; hence, Philadelphia’s homeless record system is among the oldest in the country. If a person was homeless between 1995 and their index incarceration spell, they receive a one on the prior homelessness indicator in the analysis.

The variables in this analysis represent risk factors for homelessness in the general population and reintegration challenges among ex-inmates. In addition to assessing the risk and nature of homelessness, another objective of this dissertation is to identify the risk factors for homelessness among ex-inmates. Finally, the inclusion of many of these variables, such as physical health, drug use, social bonds, and mental health, advance prior work (Metraux and Culhane 2004).
Descriptive Results

Descriptive statistics for the sample appear in Table 1. This profile of a recent cohort of males released from Pennsylvania state prisons to Philadelphia (N=11,849) largely conforms to research on crime and incarceration (see Wakefield and Uggen 2010). The sample is predominantly black (75.7%), with an average age of nearly thirty-five (34.8) and about 46.6% have a high school diploma. On average, individuals spent just under three years in prison (2.88), and 41% committed a violent offense. About 8.4% were actively receiving treatment for a mental health problem at release. Nearly 15% were assessed with drug abuse issues and 37.4% with dependence. Over two-thirds (69.4%) were overweight or obese. Finally, approximately 8.4% (N=990) of this sample stayed in a Philadelphia homeless shelter during the observation period, which suggests this sample is well suited for my purposes. Also of interest is that less than one percent of ex-inmates were homeless prior to their index incarceration spell.

[TABLE 1 ABOUT HERE]

Homelessness in Context

When examining homelessness among ex-inmates, it is essential to consider the prevalence of homelessness among other at risk populations. First, homelessness among ex-inmates in this sample is less prevalent than estimates from previous work. In Metraux and Culhane’s (2004) study, 11.4% of individuals exiting state prisons in New York became homeless in the first two years post-release, compared to 4.7% in the current study in the first two years. This could be due to a number of reasons, including differences in the amount of resources and aid available to ex-inmates during their incarceration and post-release as well as
differences in macro level influences like economic opportunities and housing affordability in New York City versus Philadelphia.

Another point of comparison is that approximately 1% of the general Philadelphia population uses homeless shelters annually, whereas 3.0% of the current sample became homeless within the first year of release (Burt 1994). Note that these percentages are not directly comparable because the latter is calculated from a fixed point in time, when individuals exit prison, whereas the 1% statistic is not relative to any unique time point. However, this comparison suggests that ex-inmates’ risk is considerably higher than that of the general Philadelphia population. Link and colleagues (1994) provide another useful comparison. Using a telephone survey, they estimated that 3.1% of Americans had been homeless in the past five years, compared to 7.2% of ex-inmates in the current sample who became homeless in the first five years post-release. Again, although not directly comparable, Link et al.’s estimate suggests that ex-inmates experience homelessness at significantly higher rates than the general population.

Taking the comparison a step further, I calculated homelessness rates for two additional groups. First, males aged 18-65 in Philadelphia in 2000 had a homelessness rate of 0.52%, compared to ex-inmates in this sample whose rate of homelessness was more than five times higher (3.0%). Second, males aged 18-65 in Philadelphia in 2000 below the federal poverty line, had a homelessness rate of 3.0%, the same as the rate in my sample.² Note that not all ex-inmates fall below the poverty line; Wheelock and Uggen (2008) estimated that only about half of state and federal inmates met the federal poverty guidelines in 1998. Thus my estimates suggest that ex-inmates experience homelessness rates similar to those who are considerably

²These rates are calculated using data from the 2000 Census and information from Philadelphia’s Office of Supportive Housing on the number of non-duplicated male clients in 2000.
more disadvantaged than them, i.e. below the poverty line.

Ex-inmates also experience similar homelessness rates as individuals exiting other institutions. For instance, Rosenheck and Heck (1994) found that 8% of Vietnam veterans became homeless after discharge in a twenty year follow up. Other research identified a shelter use rate of 8.5% for New York State psychiatric hospital patients within two years of their discharge (Metraux 1998; Metraux and Culhane 2004). Individuals exiting foster care also have elevated rates (Pecora et al. 2006). Much research on the consequences of incarceration has been devoted to understanding how inmates are different; however, the prevalence statistics above suggest that homelessness is a challenge for a variety of different institutional populations. Instead, these similar rates indicate that reintegration challenges are not unique to inmates.

Limitations

Like all data, administrative data has limitations. Several limitations pertaining to the measurement of homelessness in particular are worth noting. In particular, three groups of people could be under-observed in this study. The first consists of individuals who frequent other shelters. To be recorded as homeless in this data, a person has to stay in a shelter that contributes data to Philadelphia’s Homeless Management Information System (HMIS). Reporting to HMIS is a requirement of federal funding; shelters not receiving federal money tend to be small missions and church groups. Though these shelters do not maintain records on whether clients have been incarcerated, anecdotal evidence suggests that ex-inmates might actually be less likely to use such shelters. OSH and non-profit employees suggested that ex-inmates prefer shelters with fewer rules and regulations, which tend to be the larger shelters. The shelters that make up the 15% often have rules such as mandatory prayer service or substance
use treatment. After incarceration, ex-inmates may shy away from such rigidity. In contrast, city shelters cannot force clients to participate in counseling or search for employment.

Also relevant is whether individuals are frequently kicked out of shelters, perhaps leading them to use the other 15%. To be kicked out of a city or non-profit shelter in HMIS, a person must be a physical threat to others. While substance use is barred on premises, sobriety is not required for entrance. According to multiple informal sources, banning is infrequent. Naturally it is in clients’ best interests to behave and most shelters have security guards posted 24 hours a day as well as security cameras to deter misbehavior. Importantly, staffs strive to intervene before conflicts escalate. When incidents occur, cases are handled on an individual basis and often include a plan of action agreed upon by the client and staff. Banning clients is viewed as a last resort, because it means that a person is banned from all shelters in the HMIS. The length of the ban is determined by the shelter director. Mitigating circumstances influence decisions. For instance, a mentally ill person would not be banned but perhaps transferred to a shelter that can better meet his needs or to a psychiatric facility.

Another potentially problematic group for administrative data is homeless individuals who do not use shelters or use shelters outside of Philadelphia. A major piece of federal legislation on homelessness, the McKinney-Vento Homelessness Assistance Act, defines homelessness as the absence of a fixed and adequate nighttime residence, including residing in shelters, public places, institutional settings and places not intended for human habitation. Obtaining reasonable estimates of the homeless population continues to plague researchers (for a review see Lee, Tyler, and Wright 2010). Although we are more confident in today’s estimates than those of 25 years ago, the difficulties of locating this population remain a challenge, which is why researchers rely heavily on administrative data. Data from the National Survey of
Homeless Assistance Providers and Clients (NSHAPC) suggest that even those who primarily reside outdoors rely on shelters for protection from severe weather, particularly in Philadelphia’s climate, and the study’s extended observation period improves the likelihood of observing a shelter stay among homeless individuals who sleep elsewhere (Burt et al. 2001). Additionally, several Philadelphia non-profits have street outreach teams, which try to establish relationships with street sleepers and convince them to use shelters. Perhaps most important, there is incentive to using HMIS shelters. The aid system is structured so that shelter entrance is required to access services. In other words, a person must present himself as physically homeless, which means staying in a shelter, to access social workers, health screening and medical services, psychiatric services, education, life skills, and employment supports. Smaller shelters are unlikely to be able to offer such breadth of services (if any).

Although the HMIS data likely yield conservative estimates of homelessness, non-city shelters rarely keep the sort of records required for the current study, and locating the homeless who sleep outdoors is challenging because most strive to stay hidden. Moreover, homeless people often have untreated physical and mental health ailments as well as addictions, which make it difficult for them to accurately recall the kind of specific information needed for this project.

A third group consists of individuals who move away or die. The data structure assumes that individuals continue to reside in Philadelphia after release and thus are at risk for homelessness in Philadelphia. Ex-inmates who leave Philadelphia and become homeless would not be observed in the present study’s data. However, the bulk of this sample is on parole (71%), meaning they have residency restrictions. Sensitivity analyses restricted to those on parole are consistent with the results for the full sample. Additionally, when Kirk (2009) incorporated out
of state moves into his study of residential mobility among ex-inmates, his results were unchanged.

Despite limitations, these data are the best available and represent a considerable improvement over previous work. Moreover, Philadelphia represents an ideal site for this study because it is a large urban area where most homelessness occurs, and more individuals from Philadelphia are incarcerated than from anywhere else in the state. Research suggests that Philadelphia’s annual homeless rate of approximately 1% is comparable to other large cities (Burt 1994). And, as mentioned above, Philadelphia has one of the most comprehensive homeless record systems nationwide dating to 1995, which is essential for examining homelessness over time.

Analytic Strategy and Logic of Analysis

This analysis has two portions. Part I assesses the risk of homelessness among ex-inmates over nearly eight years after release and then examines the factors that shape the risk of becoming homeless for the first time. This portion of the analysis utilizes event history analysis to examine the occurrence and the timing of homelessness among ex-inmates. Part II examines heterogeneity in patterns of homelessness and then examines factors that influence these patterns. To examine the forms that homelessness takes in among ex-inmates, I draw on latent class models and then use multinomial regression to examine whether factors are differentially associated with certain forms of homelessness among ex-inmates.

Event History Analyses

This portion of the analysis assesses the risk of homelessness among ex-inmates over time and examines the factors associated with becoming homeless. Logistic regression allows us
to examine characteristics that predict an outcome, basically providing a snapshot of the process of interest, in this case, homelessness. Logistic regression is insufficient for my purposes, though, because I am specifically interested in the timing of homelessness after release from prison. Event history analysis is an appealing solution because it allows me to examine how the transition to homelessness is organized through time as well as how factors shape the timing of this transition (Singer and Willett 2003). I use a continuous time model, Cox proportional hazards, because homelessness is measured with specific dates. The Cox model is widely used because of its relatively non-restrictive assumptions. More specifically, Cox models allow time to be any function, which is ideal for the present analysis because we are unsure of how homelessness among ex-inmates is related to time (Allison 1984). In this analysis each inmate is at risk for homelessness for the first 94 months following release, regardless of when he was released. Individuals are treated as censored when they (1) experience their first spell of homelessness or (2) are re-incarcerated or jailed since they cannot become homeless while in prison/jail. ³ Censoring for re-incarceration is based on the start dates of all state prison re-incarcerations in Pennsylvania from the PADOC, for both new offenses and parole violations, and the start dates for jail spells from the PCS data. The Cox proportional hazards model is formally expressed as

\[
\log \left( \frac{P(t,t+s)}{s} \right) = a(t) + b_1 x_1
\]

where the left hand side of the equation is the log of the hazard function. The hazard function is

³ Subsequent analyses show that predictors do not vary by homeless spell number; in other words, the same predictors for the first spell also predict a second spell and so on.
the conditional probability that an ex-inmate will experience homelessness in the interval from t to t+s, given that he did not become homeless at an earlier time period, divided by the length of the time interval, in this case, one month (Allison 1984). The hazard is expressed through a(t), time function, and $b_1x_1$ represents a vector of covariates. In this analysis, covariates include mental health, drug use, physical health, socio demographic characteristics, index incarceration spell characteristics and past homelessness and incarcerations. The coefficients for each covariate represent acceleration or delay in the likelihood of homelessness.

A potential concern with continuous time models is the number of ties in the data, or the clustering of homelessness within the same month. Of the 990 ex-inmates who became homeless, there were 94 ties, all occurring within the first 27 months post-release. There are several methods for addressing ties. The exact partial likelihood method calculates each tied observation’s contribution to the partial likelihood by evaluating its value under all possible orderings and is known as the most complex and accurate method (Singer and Willett 2003). But this method’s enormous computational demands led researchers to search for adequate approximations. Perhaps the best approximation to date is Efron’s which considers all possible underlying orderings in the data but uses a numeric approximation to simplify the computations. Another, simpler but less accurate method is Breslow-Peto’s. This method considers all possible underlying ordering and assumes that the observed ties occur sequentially. The results were consistent across all three tie specifications; thus the results shown in the tables used the Efron approximation.

**Latent Class Analysis**

In Part II, I use latent class analysis as a heuristic tool to examine heterogeneity in homelessness among ex-inmates. Thus in this portion, I narrow the sample to only those who
became homeless after release (N=990). In contrast to traditional regression models which estimate the average effect of a predictor on an outcome, latent class models locate where the data is densest and describe its statistically distinct patterns or in latent class terminology, classes. This method will determine whether unique patterns of homelessness exist among ex-inmates and if they do, describe them. This is achieved by modeling a latent variable, in this case acute residential instability or patterns of homelessness among ex-inmates.

In a latent class framework, a latent variable is defined as an unobserved construct that accounts for the relationship among a set of observed measures (Clogg 1995). To obtain a rich portrayal of the range of common patterns of homelessness among ex-inmates, I draw on themes from the life course literature to guide the selection of observed indicators that go into the model. The life course paradigm emphasizes the timing, duration, and onset of events, as well as the influence of personal biographies (Elder 1975). Using shelter entry and exit dates from the HMIS data, I created four measures to depict these concepts. The first is a personal history measure, which captures whether individuals were homeless prior to their index incarceration spell. The second is the total number of homeless spells over the 94 month observation period. Third, I include a measure of duration, i.e., the total amount of time individuals spent in shelters during the observation period. Finally, I use the earliest point of entry into a shelter, in other words, the amount of time between release and first shelter use.

The latent class model creates a latent variable with T categories based on the associations among the observed indicators (Clogg 1995). Each category represents a unique class based on their patterns of homelessness. A primary objective of this portion of the analysis

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4 Following prior work (Culhane and Kuhn 1998), I collapse spells that are less than 30 days apart because some people have many short spells within a short period. In other words, several short stays within a 30 day period count as a single spell. Additionally, I use the earliest point of shelter entry in the eight year observation period to capture first shelter use. For instance, if a person had an earlier shelter stay after a re-incarceration than his initial shelter stay after his index release, the shorter time to shelter is used to capture earliest entry.
is to determine whether distinct patterns of homelessness exist. If there are distinct patterns, I seek to describe them. As mentioned above, the latent class model estimates the conditional probability that an individual would fall within a latent class, in this case, a class of homelessness, given the observed homeless characteristics of that individual. More formally, let A represent prior homelessness, B the number of spells, C duration, D point of shelter entry, and X a categorical variable capturing latent homelessness classes. The model can be expressed as:

\[ \pi_{efgh} = \pi_{et} \pi_{ft} \pi_{gt} \pi_{ht} \pi_t \]

Where \( \pi_{efgh} \) is the joint probability that an ex-inmate will fall in cell e though h, t (Clogg 1995; Massoglia 2006). In this analysis, cells e through h represent different patterns of homelessness across the four observed characteristics of homelessness and t represents the latent homelessness class. On the right hand side of the equation, \( \pi_{et} \) represents the conditional probability of having been homeless prior to incarceration, given latent homeless class t of latent variable X; \( \pi_{ft} \) is the conditional probability for the number of spells, given latent class t of homelessness. The notation is extended to include the remaining two observed characteristics: total duration and time to shelter entry. Last is the notation \( \pi_t \), which represents the probability that any individual can be found in latent homelessness class t and can be further interpreted as the proportion of latent homelessness class t individuals in the population.

**Summary**

In this chapter I have described the multiple ways I examine homelessness among ex-
inmates. The objective of the event history analysis is to estimate the risk of homelessness using one of the longest observation periods in homelessness research to date and to determine the key risk factors associated with homelessness among ex-inmates. Though this portion of the analysis provides an overall estimate of homelessness, it is limited to assessing whether ex-inmates become homeless. Thus, my next step is to use latent class modeling to examine patterns of homelessness among those who become homeless. Together, these two methods provide a comprehensive portrait of homelessness among ex-inmates. The following chapter, Chapter 4, details the results from the event history analysis and Chapter 5 describes the latent class analysis results.
CHAPTER 4: THE POST-RELEASE RISK OF HOMELESSNESS

This chapter examines the timing of homelessness among ex-inmates. With nearly eight years of data post-release, I examine whether homelessness is an immediate or delayed obstacle for ex-inmates, or both.

[FIGURE 5 ABOUT HERE]

Univariate Results

The top panel (a) of Figure 5 depicts the smoothed hazard for first shelter use. The risk of experiencing homelessness starts off relatively high and then declines dramatically with time post-release. Any point on this line can be interpreted as the instantaneous risk of becoming homeless for the first time, conditional that it did not already happen. For instance, in month six the risk is .022, compared to .011 in month 45, meaning that 2.2% and 1.1% of ex-inmates who became homeless became homeless for the first time in months six and 45 respectively. It is also noteworthy that a substantial portion of homelessness would be missed in this sample if the observation period ended two years post-release. While the hazard is lower as time passes, the risk of homelessness continues long after release.

How many ex-inmates experienced homelessness soon after release compared to those who experienced it, for instance, in year eight? Frequencies for ex-inmates who became homeless each year appear in Table 2. The frequencies reveal that 35.9% of the ex-inmates who became homeless in this sample became homeless within the first year of release. Breaking it down further, 15.8% of those who became homeless experienced their first shelter stay within 60 days of release and nearly one quarter (24.6%) of initial homelessness occurred within the first six months. However, a large portion of initial homelessness happened more than two years
after release (43.6%). A major contribution of this dissertation is to estimate the extended risk of homelessness after release. While the number steadily declines with time, it is noteworthy that many ex-inmates experience homelessness for the first time so long after release. For instance, 4% of those who became homeless first became homeless almost eight years after release from prison.

[TABLE 2 ABOUT HERE]

The hazard in panel a is truncated on the left hand side because the smoothed hazard cannot describe the risk until one bandwidth after the earliest observed event time, in this case, one month, which is why we turn to the cumulative hazard, which appears in the lower panel (b) of Figure 5 to examine the changing slopes of the cumulative hazard to gather information about the risk at the beginning of the observation period (Singer and Willett 2003). The cumulative hazard cumulates the month by month risk for homelessness together to assess the probability that individual $i$ will survive past time period $j$. The cumulative hazard starts at zero because the whole sample is at risk at the beginning of the observation period. Conversely, at the end of the observation period, the cumulative hazard reflects the total amount of risk for the observation period, or the percent of the sample that “survived”. In this case, the figure shows that 91.6% of the sample remains at risk for homelessness 94 months after release.

[TABLE 3 ABOUT HERE]

**Multivariate Results**

Having established ex-inmates’ univariate risk of homelessness for 94 months after release, I next examine whether we can explain this risk. I incorporate a range of theoretically and empirically important predictors of homelessness among ex-inmates in the Cox model. The
objective of the multivariate Cox model is to determine whether variation in the risk of homelessness varies systematically with the predictors (Singer and Willett 2003). These results appear in Table 3 and include both the b coefficients and risk ratios (b coefficients exponentiated). Beginning with health characteristics, the results indicate that health has a strong influence on the occurrence and timing of becoming homeless. PRT roster membership in prison more than doubles the risk of homelessness after release (RR=2.28) and MH/MR roster membership also doubles the risk (RR=2.07). Regarding drug use, the risk is accelerated by 26% for ex-inmates assessed with dependence at the time of admission to prison, whereas drug abuse, the lesser form, is not predictive. The physical health results are unexpected; obesity decreases the risk of homelessness by 19% and neither underweight nor overweight status is associated with homelessness. This may be because the obesity indicator is capturing financial circumstances. While poor health is usually positively associated with homelessness, an ex-inmate with ample access to food likely has stable housing.

Progressing to socio demographic characteristics, these results are generally consistent with prior research (Metraux and Culhane 2004). For instance, the risk of homelessness is accelerated by 18% for every yearly increase in age.\textsuperscript{5} This finding might be due to the age-crime curve; perhaps shelters substitute for prison as people age out of crime (Dordick 1997; Metraux and Culhane 2004). African Americans are almost three times as likely (RR=2.82) to become homeless compared to non-blacks. This is consistent with prior work; blacks are significantly more likely to become homeless net of poverty status than non-blacks (Culhane and Metraux 1999). The results also suggest that marital status is an important buffer for ex-inmates; being married decreases the risk by 37% (Burt 1992).

\textsuperscript{5} To facilitate interpretation, age was top coded at 35. A likelihood ratio test comparing the results of the model with the top coded age variable to a model with a cubic term for age was non-significant, indicating that the top coded term adequately captures the variation in age.
Additionally, the results indicate that individuals with more than a high school (HS) diploma have an accelerated risk of homelessness (55%) compared to those with less than a high school diploma. Although not anticipated, three reasons may explain this finding. First, the stigma of incarceration may be greater for individuals with more education. Consistent with this notion, Gowan (2002, 525) found that men “who had come from lower middle-class or respectable working class backgrounds became homeless far quicker than those from poorer backgrounds.” Race might play a role in this explanation too; perhaps stigma is stronger in higher educated white communities than African American communities. Further analyses did not support this explanation in that, the inclusion of an interaction term for race x education was not significant. But recall that few ex-inmates have more education than a high school diploma (3.8%), so this finding is driven by a small group, 49 ex-inmates with more than a HS diploma became homeless and only seven of them were non-black, thus, statistical power is an issue.

A second possible explanation for the accelerated rate of homelessness associated with more than a HS diploma is that this population may have greater knowledge of services available or is perhaps more willing to use such services. Less educated populations may have difficulty navigating the bureaucracy associated with aid services whereas such procedures and acquiring the knowledge of such services may be normative for individuals with somewhat more education. Finally, another explanation is that ex-inmates with less than a HS diploma may be more streetwise. In other words, they may be better able to access informal resources that allow them to avoid homelessness.

Several characteristics of ex-inmates’ index incarceration also affect the risk of homelessness. The results show that sentence length and release status are both significantly associated with homelessness. Ex-inmates with sentences longer than average have a lower risk
of homelessness, which is counterintuitive to existing work suggesting that longer spells are more detrimental to social ties (Massoglia et al. 2011). Offense type and incarceration history might account for this finding; perhaps, individuals serving a lengthy sentence for a single, serious offense may still have social ties to rely on post-release. Whereas, individuals who repeatedly commit low level offenses and serve shorter sentences may have few ties intact, increasing their risk of homelessness. Turning to the results for release disposition, completion of one’s full sentence (maxing out) is a strong accelerant of homelessness; the risk is doubled for individuals who served their full sentence. Given that individuals who complete their sentence do not receive any transitional services that might be associated with parole and are more likely to be “problem” inmates, this is not surprising.

Finally, prior homelessness emerges as the strongest predictor in the model. The risk of post-release homelessness is more than seven times higher for ex-inmates with a history of homelessness prior to incarceration compared to ex-inmates with no history of homelessness. While this finding contributes to our understanding of homelessness among ex-inmates, only 7% of those who became homeless after release were homeless prior to their incarceration, indicating that a small number of men are driving this finding.

[FIGURE 6 ABOUT HERE]

These results are illustrated graphically in Figure 6. This figure depicts the shelter use hazard by each significant predictor with all other covariates in the model held constant. For instance, panel (a) shows how the hazard differs for the three mental health categories: intensive services, stable services, and no mental illness. The steady decline in the risk of homelessness with time is also evident. Similar patterns are observed for the remaining panels in Figure 6. All the predictors’ hazards are statistically distinct from their categories or values with the exception
of physical health and educational attainment, which is evident in the relatively small differences
between categories of physical health and attainment in panels (c) and (g).

[FIGURE 7 ABOUT HERE]

The results presented thus far show the effects of each predictor on the risk of becoming
homeless after release with the remaining predictors held constant. Many of the effects are quite
large. However, many ex-inmates have more than one of these risk factors. Figure 7
demonstrates the hazards for low, medium, and high risk ex-inmates. For illustration purposes,
low risk is defined as having no history of mental illness, drug abuse or dependence, or prior
homelessness. Other low risk factors include being under age 35, being non-African American,
having a high school diploma, being married, and receiving parole for their index offense (rather
than serving their full sentence). The remaining covariates are held constant. The mean hazard
represents medium risk. High risk factors include mental health treatment in prison, drug abuse
or dependence, and prior homelessness. Other factors include being age 35 or older, being
African American, having more than a high school diploma and completing one’s full sentence.
Figure 7 reveals that the hazards for these three levels of risk vary substantially; indeed, they
would not all fit on one axis, hence the separate panels. These risk patterns suggest that even
among this disadvantaged institutional population, the risk of homelessness varies considerably.

To examine the robustness of this portion of the analyses, I ran several different
sensitivity tests. First, I examined whether the predictors were dependent on the length of the
observation period employed. I restricted the observation period to 12, 24, 36, 48, 60, 72 and 84
months and the results remained the same. Thus the same predictors that explain why ex-
inmates became homeless for the first time in year one also predicts delayed homelessness in
year seven. The power of these predictors does not decline either; their magnitude is quite
similar overtime.

Second, I examined the influence of censoring. While ex-inmates are censored when they are re-incarcerated in this portion of the analysis, censoring is based on the date individuals began serving their sentences. This could bias the results if individuals were detained for long periods of time while awaiting trial, which would inflate their risk of homelessness. When ex-inmates are arrested for a new offense and bail is not an option, they await trial and sentencing in Philadelphia’s city jail. A recent Pew report (2010) on Philadelphia’s jails reveals that this is not a major issue. In fact, the bulk of individuals awaiting trial (63%) stayed less than thirty days prior to their sentencing (and 42% served less than seven days). Twenty-two percent stayed between one and four months while the remaining 15% stayed over four months (Pew 2010). In sensitivity analyses, I tested the influence of pretrial detention by adjusting individuals’ risk periods for each of the four possible time periods: 7 days, 30 days, 2 months, and 4 months. The results presented in Table 3 were unchanged. While crude, this strategy suggests pretrial detention has little influence on homelessness estimates. Estimates of homelessness among parole violators are less susceptible to bias because when individuals are arrested for parole violations, they are only temporarily held in jail until transportation to a state facility is arranged.

Third, the absence of Philadelphia Municipal Court data from re-incarceration information could also be cause for concern. Municipal courts hear cases pertaining to city ordinance violations, which are summary offenses generally punishable by up to 90 days in jail. For instance, retail theft is usually classified as a summary offense if it is a person’s first conviction. Importantly, summary offenses are unlikely to result in pretrial detention; 90% of Philadelphia jail inmates awaiting trial were charged with a felony (Pew 2010). The potential issue lies with sentence length for Philadelphia Municipal Court convictions. Philadelphia jail
data suggests that lengthy sentences are uncommon, though it is not possible to distinguish municipal sentences from others; for instance, felonies with up to two year sentences were allowed to be served in Philadelphia jails during the observation period (Pew 2010). But of the 23% percent of Philadelphia jail inmates serving time for convictions in 2009, approximately 45% stayed less than one month, 31% stayed between one and four months and 33% stayed for more than four months. Given that the bulk of Philadelphia jail misdemeanor convictions result in sentences of less than four months total and the current study’s observation period is nearly eight years, the absence of municipal convictions is not a major limitation.

Summary

In this chapter I have examined the timing and occurrence of homelessness among ex-inmates for nearly eight years following release. In addition to estimating the univariate risk, the hazard was adjusted for key constructs related to homelessness and reintegration challenges. The results demonstrated the lasting risk of homelessness among ex-inmates after release from prison. While ex-inmates are at the greatest risk in the first two years after release, approximately 44% first became homeless more than two years later. The results also defined a set of risk factors for homelessness among ex-inmates. Mental health status, drug dependence, age, race, marital status, release status, and prior homelessness emerged as strong predictors of who became homeless after release. Several factors more than doubled the risk of homelessness, including prior homelessness, being black, mental illness, and serving one’s full sentence. These results represent an important step in understanding the risk of homelessness among ex-inmates. The strength of this analysis is that it assessed the risk over nearly eight years and examined the risk factors for becoming homeless. Its weakness is that it only examines whether ex-inmates
ever became homeless. For instance, it does not tell us how long they were homeless or how many times they became homeless. In the next chapter I describe the latent class results which shed light on patterns of homelessness among ex-inmates.
CHAPTER 5: VARIATION IN PATTERNS OF HOMELESSNESS AMONG EX-INMATES

In this chapter I examine the nature of ex-inmates’ homelessness. Drawing on four attributes of homelessness: homelessness history, total number of homeless spells, total duration of homelessness, and the timing of shelter use post-release, I take an in-depth look at ex-inmates’ homelessness experiences. I then use latent class analysis to determine whether unique forms of homelessness among ex-inmates exist.

Descriptive Results

Table 4 shows the four indicators of homelessness used to identify latent patterns of homelessness among ex-inmates. Recall that this portion of the analysis is restricted to only those ex-inmates who experienced homelessness (N=990). Three categorical indicators-- the total number of homeless spells, total duration of shelter stays, and earliest point of shelter entry—were created from continuous measures of homelessness characteristics over the 94 month observation period (nearly eight years). I chose cut points to create mutually exclusive categories, which appear in Table 4, and to maximize the variation in the data and ensure there were enough ex-inmates per value on each indicator. Latent class analysis requires ample variation in the data and Table 4 shows there is considerable variation on these indicators. For instance, approximately 45.3% of ex-inmates who became homeless experienced one spell, while nearly 30% were homeless two to three times and 25% experienced four or more spells. Recall that spells are counted as separate when they are more than 30 days apart. By this criterion, more than half of ex-inmates who became homeless experienced more than one distinct spell during the first 94 months post-release.
Regarding the total amount of time ex-inmates stayed in shelters, about 29.1% stayed 30 days or less, 28.9% stayed between 31 days and three months and 42% stayed more than three months in shelters during the observation period. The point of entry indicator is measured as the earliest point an ex-inmate entered a shelter after release; A little over one quarter (26.6%) stayed in a shelter in the first six months, while 29.3% became homeless between six months and two years after release. Finally, approximately 44.1% became homeless more than two years after release. Homeless history is measured as whether ex-inmates were homeless in Philadelphia since administrative record keeping began in 1994. Approximately seven percent of those who became homeless post-release had been homeless before. Together these descriptive statistics suggest that homelessness among ex-inmates in Philadelphia is more complex than previous quantitative research suggests. Next we move to the latent class analysis results, which focus on the relationship among these four indicators of homelessness.

I use latent class analysis (LCA) to group ex-inmates into distinct types of homelessness, assuming such types exist. This method allows for conclusions about homelessness patterns among ex-inmates, expressed as ex-inmates’ probabilities of experiencing certain values on each characteristic of homelessness. Before we can examine these probabilities, we first assess model fit using model fit statistics that appear in Table 5. I tested for model specifications using two, three, four, and five forms of homelessness. Multiple indicators were used to assess model fit.

6 If, for instance, an ex-inmate entered a shelter after release, was re-incarcerated and released and entered a shelter for a second time at an earlier date after release than his first stay, the time to second shelter stay was used.
Table 5 documents that the fit statistics best support a four class model under all criteria. A low AIC, BIC, and G-squared likelihood-ratio statistic indicate proper model specification (Collins and Lanza 2010). The G-squared reflects how well a latent class model fits the observed data and a non-significant p-value indicates that there are no significant differences between the expected and the observed data. These criteria uniformly indicate that a four class model best fits the data. In contrast, models with two or three types of homelessness are not well supported by the data. Neither the G-squared statistic and its corresponding significance test, nor the AIC or BIC suggests that the two or three class models adequately represent the data. The same applies to the five class specification. All indicators of fit suggest the freely estimated model with four types of homelessness and no parameter restrictions best fit the data.

[TABLE 6 ABOUT HERE]

Table 6 shows the probabilities of membership in each latent class and conditional probabilities of each aspect of homelessness given membership in one of the four classes of homelessness among ex-inmates. The latent class probabilities indicate there are a sizeable number of ex-inmates in each type or class of homelessness, ranging from 17% to 39% of the population. High scores on each of the four indicators characterized the first class, which I therefore label “chronic.” This chronic form of homelessness comprises approximately 24% of ex-inmates who became homeless. While the conditional probabilities across all four forms of homelessness suggest that prior homelessness is infrequent, ex-inmates in the chronic class are more than twice as likely to have been homeless before their index incarceration in comparison to the other three classes. This class also has a high conditional probability of experiencing four or more spells of homelessness (76.8%). Similarly, their probability is 89.3% for staying more than three months in shelters during the observation period, the longest category. While their
point of shelter entry is less distinct, ex-inmates in the chronic class have a high combined probability of entering within the first two years of release (54.4+43.5=97.9%).

The “episodic” group, the smallest class at 17% of the population, is less intensively involved in homelessness, relative to the chronic class. The defining feature of this class is its high probability of experiencing two to three spells of homelessness (94.7%). This group also has a high probability of staying a few months (63.7%) and no definitive point of shelter entry. However, their probability is highest for entering between six months and two years after release (41.1%).

The third class includes approximately 20% of the population. “Late onset” is the distinctive feature of this class; their probability of becoming homeless two or more years after release is 87.8%. Like the chronic class, this class has a high probability of staying more than three months in shelters (83.4%). Compared to the episodic group, they are more than four times as likely to stay more than three months in shelters. The number of spells this class experienced is not distinctive; the probabilities are split relatively evenly across the three values.

The fourth class I labeled “transitional” because ex-inmates in this class are most likely to experience a short spell of homelessness, importantly though, this spell occurs long after release. This group is the most common, comprising 39% of ex-inmates who became homeless. One defining characteristic of this class is their high conditional probability of experiencing one spell: 93.9%. They also have the highest probability of the four classes of staying 30 or fewer days (66.7%). Ex-inmates in this group are more likely to enter more than six months after release (combined probabilities=80.2%). The transitional, late onset, and episodic classes have very high conditional probabilities of no prior homelessness: 96%, 95.3%, and 94.5% respectively.

These results suggest that homelessness among ex-inmates is far from a uniform
phenomenon. Instead, the data indicate four statistically distinct patterns of homelessness among ex-inmates based on four key characteristics of homelessness: whether ex-inmates were homeless prior to their index incarceration, the total number of spells, total time homeless, and the timing of homelessness post-release. Figure 8 shows the variation of the four classes across these characteristics. Panel a demonstrates the low conditional probabilities of prior homelessness for all four classes as well as the increased likelihood of prior homelessness for the chronic class relative to the other three classes. In Panel b, which shows the total number of shelter spells, the unique patterning across the four classes becomes apparent. The first set of bars depicts the probability of staying in a shelter only once, the middle set for two to three spells, and the far right set of bars represents the probability of four or more spells. As noted above, the transitional group has a high probability of experiencing only one spell. The episodic class has a high probability of experiencing two to three spells. While the late onset group is distributed across the three categories, they are most likely to have two to three spells too. The chronic class has the highest probability of experiencing four or spells.

Panel c of Figure 8 shows the total time each class spent in shelters. Individuals in the transitional class are most likely to experience a very short spell and the episodic class is most likely to stay several months. In contrast, the chronic and late onset classes have a very high probability of staying a long time, more than three months. Lastly, Panel d depicts the differences across the classes in when ex-inmates first became homeless after release. The chronic class has a high likelihood of entering early, while the episodic class is spread out across the three values, showing that this class has no definitive entry point. This panel also shows the high probability of delayed homelessness for the late onset and transitional classes.

While model fit statistics indicate that a four class model best fits the data, it is also
necessary to assess the accuracy of ex-inmates’ placement in these four classes. Latent class analysis generates a probability of class membership for each of the four classes for every ex-inmate who became homeless, based on their response pattern on the four observed indicators. These are sometimes referred to as posterior probabilities (Collins and Lanza 2010). Ex-inmates do not belong to any particular class, but instead have a posterior probability of class membership for each respective class. A high degree of classification certainty indicates that ex-inmates have a high probability of membership in one class and low probabilities of membership in the others. These probabilities assess the extent to which the model adequately classifies ex-inmates in the four classes. In the current analysis, 81.6% of the sample had posterior probabilities above 80%. This suggests that the vast majority of ex-inmates who became homeless are placed in the correct class 80% of the time.

Much research has relied on typologies to better understand homelessness, but most uses cluster analysis (e.g. Kuhn and Culhane 1998). Cluster analysis and latent class analysis results are not directly comparable because they are different methods. For instance, cluster analysis does not provide model fit statistics and relies on continuous rather than categorical indicators. Additionally, previous studies using cluster analysis do not use a fixed reference point for when individuals are at risk for homelessness, whereas the present research is based on when individuals were released from prison. Nonetheless, it is helpful to consider conceptually how the types of homelessness among ex-inmates compare to those found in the general population.

My results contribute to homelessness typology research in two ways. First, using an institutionalized population (ex-inmates), my findings corroborate the standard three class typology used to characterize homelessness in the general population. Kuhn and Culhane (1998) specify the three classes as: transitional, episodic, and chronic. They estimate that approximately
80% of the general homeless population is transitional; individuals in this group are homeless for a short amount of time and never return. I find that such an experience is the most common form of homelessness among ex-inmates who become homeless (39%). Episodic homelessness, which is estimated to comprise approximately 10% of the general homeless population, also exists among ex-inmates; about 17% of homeless ex-inmates are in the episodic class. Ex-inmates also experience chronic homelessness, 24% of homeless ex-inmates are classified as chronic, which characterizes approximately 10% of homelessness in the general homeless population. While similar forms of homelessness exist in the general population and among ex-inmates, in general, homeless ex-inmates appear to more disadvantaged. Comparing the three forms of homelessness in size between homeless ex-inmates and the general homeless population, ex-inmates experience more frequent and longer periods of homelessness.

My findings build on existing typology work by adding a new form of homelessness to the typology: late onset. Note that I able to detect this class because I examine homelessness experiences from a fixed point in time. Thus previous research examining types of homelessness in the general population may have mistakenly characterized late onset homelessness as “transitional”. Regardless, my findings indicate that late onset is a common form of homelessness (20%) in a population with a history of institutionalization. Future research, particularly when examining homelessness among populations with institutional contact, should be alert to the possibility of late onset homelessness.

*Explaining Class Membership*

The latent class results indicate that there are four distinct forms of homelessness among ex-inmates. But what determines membership in these four classes? In other words, are
explanatory factors associated with class membership? The same set of covariates from the event history analysis examining the occurrence of homelessness among ex-inmates was used to predict class membership. Class membership was modeled using multinomial regression; the dependent variable was the probabilities of latent class membership. Significance tests based on the change in the log-likelihood appear in Table 7. These results indicate that several factors significantly contribute to our understanding of homelessness types among ex-inmates. The main factors are drug dependency, age, race, whether the index incarceration was for a parole violation, sentence length, and full sentence completion. Table 8 shows the results of multinomial regression analyses. Several additional covariates explain specific class membership in Table 8, but the six factors noted above are the key characteristics which contribute to the overall model. Table 8 shows how these explanatory factors differ across the classes, with the chronic class serving as the reference group.

The first column in Table 8 displays the differences in explanatory factors between the episodic and chronic classes. Ex-inmates in the episodic class are younger than those in the chronic class, are more likely to have more than a high school diploma, less likely to have been incarcerated for a violent offense and less likely have completed their full sentence than those in the chronic class. It is also not surprising that ex-inmates in the chronic class are older than those in the episodic group. Older ex-inmates are not only at greater risk of homelessness than younger ones, but also experience more intensive homelessness (Culhane et al. 2013). Ex-inmates in the episodic class are more likely to have more than a high school diploma than those in the chronic class. This difference in human capital may be capturing differences in employability or vocational skills between these classes. In other words, ex-inmates in the episodic class might experience less homelessness than those in the chronic class because their
high school diploma makes them more employable, functioning as a provisional buffer against homelessness. Regarding sentence completion, recall that full sentence completion usually indicates the inmate is ineligible for parole either due to problematic behavior during incarceration or because he does not have a place to go post-release. Thus ex-inmates in the episodic class are more likely to have been paroled than those in the chronic class, and the same resources that facilitated parole also influenced homelessness patterns.

The middle column of Table 8 shows the results of the late onset class compared to the chronic class. Like the episodic class, ex-inmates in the late onset class are younger than those in the chronic class. Their index incarceration was also more likely to have been for a parole violation compared to the chronic class and their sentence was longer compared to the chronic class. To be re-incarcerated for a parole violation, one must have been paroled, so ex-inmates in the late onset class may have social ties which facilitated the parole process for their previous incarceration and also buffered them from homeless for a period of time when they were released from their index incarceration.

The last column in Table 8 demonstrates the results for the transitional class compared to the chronic class. There are more differences between the transitional and chronic classes than the other classes because these two groups are the most different: individuals in the chronic class experienced multiple bouts of homelessness soon after release and spent a considerable amount of time in shelters during the observation period whereas those in the transitional class made it for quite some time after release before they became homeless and even then they were homeless for a relatively short period and only once. Ex-inmates in the transitional class are less likely to have been on the Mental Health/Mental Retardation roster (MH/MR) while incarcerated than those in the chronic class. However they are more likely to have been assessed with drug
dependence, suggesting that perhaps their delayed homelessness is due to a relapse. Like the episodic and late onset classes, ex-inmates in the transitional group are younger than those in the chronic. African Americans are less likely to be in the transitional class compared to the chronic class. African American status is associated with homelessness in the general population net of poverty and other indicators of disadvantage (Culhane and Metraux 1999). These results suggest that African American ex-inmates are among the most disadvantaged homeless people. We also observe differences in the reason for these two classes’ index incarceration; ex-inmates in the transitional class are more likely to have been incarcerated for a parole violation than the chronics are. They also serve longer sentences and are less likely to serve their full sentence, suggesting that they were paroled for good behavior and/or because they had a home plan in place and these resources delayed their homelessness.

Overall, these results lead to the unsurprising conclusion that the chronic class is more disadvantaged than the other three classes. What is unexpected, though, is that several theoretically important covariates do not contribute to our understanding of class membership. To further examine class differences, we turn to descriptive profiles of the four classes. These descriptive statistics were generated using the posterior probabilities discussed above as weights, that is, rather than dichotomizing class membership, ex-inmates contribute to the descriptive statistics for each class proportionate to their probability of membership.

These profiles, which appear in Table 9, suggest that homeless ex-inmates are more alike than different. For instance, mental health issues are not uncommon in all four classes. The largest differences are not observed among the four classes but between the ex-inmates who became homeless and those who did not. Descriptive statistics for the portion of the sample that did not become homeless appear in the final column; in general, these are the differences
observed in the event history results. Continuing to examine mental health differences across the five groups, we see that membership in the Psychiatric Review Team roster in prison is between two and six times more common among the four latent classes of homelessness compared to the group of ex-inmates who did not become homeless post-release. Marital status is another interesting difference across groups. Ex-inmates who did not become homeless are more likely to be married compared to homeless ex-inmates, but marriage is more common among the late onset class than the other homeless classes. This suggests that marriage may have temporarily buffered them from homelessness.

While these results illuminate differences among homelessness types, perhaps the different patterns of homelessness are due to re-incarceration. For instance, delayed entry may be because ex-inmates were re-incarcerated and hence ineligible for homelessness early in the observation period. In subsequent analyses, I examined the timing until re-incarceration in prison or jail for all four classes. I find little evidence that re-incarceration is responsible for different patterns of homelessness among ex-inmates. Overall, re-incarceration is less common among ex-inmates who became homeless than those who did not. In other words, older ex-inmates are more likely to become homeless than re-incarcerated, while the opposite is true for younger ex-inmates. Some 34.4% of ex-inmates who did not become homeless were re-incarcerated, whereas 26.8% of the chronic class was re-incarcerated, 27.9% of the episodic, and 21.0% and 30.0% respectively for the late onset and transitional classes.

Summary

In this chapter I have examined patterns of homelessness among ex-inmates. Latent class analysis results suggest four distinct forms of homelessness exist among ex-inmates. Ex-inmates
in the chronic class are the most intensive: they become homeless soon after release, experience many spells and spend a considerable portion of the observation period homeless. Those in the episodic class experience a few spells spread throughout the observation period that total several months in shelters. The late onset class is characterized by delayed yet lasting homelessness and the transitional group experiences a short spell long after release. Explanatory factors for understanding these different patterns of homelessness are also explored. The results indicate that age, race, drug dependency, whether the index incarceration was for a parole violation, sentence length, and full sentence completion are key in discerning group membership. When compared with ex-inmates who do not become homeless, ex-inmates who became homeless were considerably more disadvantaged across most covariates included in the analysis. In the next chapter I discuss how these findings fit with those from the event history analysis and I consider the implications for the study as a whole.
CHAPTER 6: CONCLUSION AND POLICY IMPLICATIONS

Summary of Results

This dissertation investigates patterns of homelessness among ex-inmates with four specific aims. Together the results addressing these aims provide one of the most comprehensive portraits of homelessness among ex-inmates to date. The first aim was to establish the risk of homelessness among ex-inmates after release. In this sample of Pennsylvania prison releases to Philadelphia from 1999 to 2002, 8.4% became homeless in the first 94 months after release. This rate is comparable to homeless rates of populations exiting other institutions such as the military, psychiatric facilities, and foster care (Metraux 1998; Pecora et al. 2006; Rosenheck and Heck 1994).

Using administrative records to track ex-inmates’ shelter use for nearly eight years post-release, I demonstrate that the risk of homelessness extends long after release. This finding is in contrast to earlier studies, which characterized homelessness as primarily a reentry problem. Consistent with prior work, the risk is greatest in the first few months after release and declines with time. However, many ex-inmates experience delayed homelessness. Specifically, 43.6% of ex-inmates who become homeless do so more than two years post-release. Rather than temporarily altering their life course and experiencing delayed normative transitions, many ex-inmates experience prolonged residential instability.

A second aim was to determine whether there are specific types of homelessness among ex-inmates, and if so, what they are. Prior research examined only whether ex-inmates ever became homeless in the first two years after release. Building on this work, I incorporate other aspects of ex-inmates’ homelessness experiences, including the length of homelessness and number of spells as well as ex-inmates’ homelessness histories to obtain a more detailed
description of ex-inmates’ homelessness experiences. While existing work has portrayed homelessness among ex-inmates as essentially uniform (i.e. homelessness is a transitional state shortly after release), I find considerable heterogeneity in homelessness patterns. Latent class analysis reveals four distinct classes of homelessness among ex-inmates. In contrast to the transitional reentry effect in prior work, the results indicate that those who become homeless shortly after release typically are chronically homeless, hence the label “chronic.” The “episodic” class is characterized by having several spells of homelessness totaling a few months. In addition, analyses reveal two distinct forms of delayed homelessness; ex-inmates in the “transitional” class experience a short delayed spell while those in the “late onset” class experience prolonged homelessness years after release from prison. Compared to the general homeless population, ex-inmates have more frequent and longer periods of homelessness. In short, when multiple characteristics of homelessness are incorporated, the results indicate that ex-inmates have very different homeless experiences. Not all homelessness is the same among ex-inmates; some are more entrenched than others, shaping their life course in very different ways. For instance, the life course of ex-inmates who experience a short spell of homelessness soon after release is not dramatically changed. In contrast, individuals who experience repeated or lengthy spells post-release experience substantial hardship.

Two additional aims of this dissertation were to explain (1) The occurrence of homelessness among ex-inmates and (2) The four different forms of homelessness among ex-inmates. Regarding the former, the results generally show that the most disadvantaged of an already disadvantaged population (ex-inmates) are at the greatest risk of homelessness. This is consistent with existing work by Wheelock and Uggen (2008) who argue that incarceration contributes to poverty and social inequality primarily by amplifying existing vulnerabilities. In
the present study, the factors most strongly associated with homelessness among ex-inmates are mental health, addiction, age, race, and prior homelessness. More specifically, receipt of mental health treatment in prison (both intensive and stable), being assessed with drug dependence, being older, being African American, completing the full prison sentence rather than being paroled, and having a history of homelessness dramatically accelerate the risk of homelessness among ex-inmates post-release.

Drug dependency, age, race, whether the index incarceration was for a parole violation, sentence length, and sentence completion emerge as key factors for distinguishing between types of homelessness among ex-inmates. In particular, these factors distinguish membership in the chronic class versus the episodic, transitional, and late onset groups. Ex-inmates in the chronic class, the most intensively homeless group, are more likely to be older, African American, and complete their full sentence than those in the episodic, transitional, and late onset classes. Those in the chronic class are also more likely to serve shorter sentences and their index incarceration is less likely to be a parole violation than ex-inmates in the transitional and late onset groups.

Discussion

This research contributes to the growing literature on incarceration and inequality by examining patterns of extreme poverty among ex-inmates. These results also provide considerable evidence of lasting social exclusion among homeless ex-inmates. Scholars have characterized homelessness as a form of acute social exclusion and second class citizenship; many consider housing a fundamental right of citizenship. Depastino (2003, 271) aptly characterizes this exclusion in his book entitled Citizen Hobo:
“for the homeless, winning citizenship means struggling not only for shelter, but for “home” differently defined. For however it is imagined, the American home remains an essential means for gaining access, belonging, inclusion, and power.”

Penal scholars have made strikingly similar arguments about the power of the “ex-inmate” label (e.g. Pager 2009). Ex-inmates are formally and informally excluded from social institutions that facilitate reintegration (Uggen, Manza, and Thompson 2006). In sum, homelessness and punishment experts emphasize the difficulty associated with overcoming the social exclusion associated with these respective statuses. When individuals bear both these labels, they may be doubly disadvantaged. As evidence of this, Gowan (2002, 529) describes how “homelessness reinforces social marginalization, unemployment, alienation, and criminal status” in her sample of ex-inmates. My findings provide further support for this notion of lasting social exclusion, particularly through the repeated and lengthy spells of homelessness among ex-inmates.

In addition to acute social exclusion, scholars also characterize the homeless as an invisible population (e.g. Dordick 1997). This is because the homeless are often excluded from large scale surveys and data collections. Moreover, although millions of Americans encounter homeless people on daily basis, the homeless remain largely invisible in terms of public concern. Recent campaigns to reduce homelessness have been driven by policy advocates—not as a result of public opinion. Perhaps not surprisingly, Becky Pettit (2012) recently showed that the same invisibilities apply to inmates. By failing to include prisoners in the calculation of official statistics, fundamental societal markers of progress and well-being such as employment, health, education, and politics have been gravely distorted. Above, I suggested that homeless ex-inmates are doubly disadvantaged by bearing both the ‘ex-inmate’ and ‘homeless’ labels. I chose to title this project “Invisible Men” because of this group’s double invisibility in society.
This group is overlooked far too often, yet homeless ex-inmates represent the crux of current debates surrounding poverty, race, and opportunity in the United States.

Recent work unites the experiences of the poor and the incarcerated in modern society with a single theory. Soss, Fording, and Schram (2012) argue that there has been a shift in poverty governance in the United States; penal and welfare populations have long been drawn from the same communities, but modern penal and welfare policies now control a growing “underclass” with remarkably similar methods (Irwin 1985; Wacquant 2009; Wilson 1987). Whereas both systems used to be rehabilitative, current carceral ideas have been imported into welfare reform. Both now have penalties for client violations and rely on each other: felony convictions can block aid while welfare programs can be used for sting operations. The ramifications for this unified approach are unknown, but given current trends, it seems that the overlap between homelessness and incarcerated populations may continue to grow.

In regard to the mental illness findings, deinstitutionalization has long been blamed for the rise in homelessness (e.g. Jencks 1994) and incarceration, albeit to a lesser extent (Harcourt 2006). The premise of deinstitutionalization was that mental hospitals were inhumane and costly and that intensive outpatient services would be more effective. However, community based mental health programs never developed, despite the release of a half million former residents (a 90% reduction by 1970). After being released to the community with few if any outreach services and limited social support as safety nets, many of these individuals became entangled in the criminal justice system or homeless (American Psychiatric Association 2004; Adams & Ferrandino 2008). This led Harcourt (2006) to argue that there has merely been a shift in the form of institutionalization in the United States: increases in imprisonment rates have substituted for the decrease in mental hospitalization rates. Similarly, Hopper and colleagues (1997)
suggested that the mentally ill travel an “institutional circuit” which includes shelters and prisons in place of more stable housing. Yet aggregate level research has found limited empirical support for these arguments (Steadman et al 1984; O’Flannagan 1996). The current research found that mental illness was a strong predictor of homelessness. However, less than one quarter of ex-inmates who became homeless received treatment for a mental illness while they were incarcerated. Instead, the bulk of those who became homeless did not receive mental health treatment. Now that nearly fifty years have passed since deinstitutionalization, mental health policy is increasingly unlikely to be a driving factor in rising homelessness and incarceration rates.

The findings of this dissertation support Sampson’s appeal to scholars for “more rigorous study of the heterogeneous effects of incarceration that take into account the multiple and complex pathways through which incarceration transmits its influences” (2011, 820). In other words, we should keep an “incarceration ledger” to understand the varied consequences of incarceration. In contrast to this nuanced approach, early research on the reintegration process emphasized a uniform, problematic transition for ex-inmates (e.g. Travis 2005). In line with Sampson, the current research reveals that reintegration experiences differ considerably. Documenting and understanding these nuances is the next step in understanding the reintegration process and consequences of punishment.

These findings also respond to recent calls for research on types of homelessness. Researchers and advocates have heavily relied on the three class typology of homelessness in the general population (transitional, episodic, and chronic) for nearly twenty years. However, McAllister and colleagues (2011) recently argued that this typology is too simplistic. They suggest the three class typology misses a great deal of heterogeneity in homelessness
experiences. The current study offers conceptual evidence to the need for further research on types of homelessness, by demonstrating that the traditional three class typology used to understand homelessness in the general population is applicable to formerly institutionalized populations and offering a new form of homelessness in said populations: late onset.

Other recent research has suggested that shifting who we compare ex-inmates to may facilitate our understanding of reintegration. To date, most work has focused on how ex-inmates are different from the general population to demonstrate reintegration challenges. Massoglia and colleagues (2011) suggested that scholars also consider how inmates are similar to those exiting other social institutions. The current research found similar rates of homelessness among other institutional populations, including the military, foster care, and psychiatric facilities (Metraux 1998; Pecora et al. 2006; Rosenheck and Heck 1994). While little research has followed individuals exiting other institutions for as long as the current study, preliminary work finds that veterans also experience delayed homelessness after discharge (Kate McCoy 2013, personal communication). This suggests that homelessness in these populations may be due to shared reintegration difficulties and less attributable to stigma because military service is not associated with stigma like incarceration. Comparing military and incarceration reintegration experiences to untangle the mechanisms responsible for homelessness may be a fruitful avenue for future research.

The conceptualization of homelessness is also worthy of further attention. Many scholars have noted that homelessness is not a dichotomous state; instead there is a great deal of grey (Lee, Tyler, and Wright 2010). Gowan (2002) and others have aptly characterized homelessness as part of a housing continuum. For instance, when ex-inmates are in between homeless spells, they are rarely in stable housing, which researchers refer to as different categories of the
“precariously housed”. In its place, they likely rely on family and friends who cannot (or choose not to) support them continuously. A continuum approach also allows us to consider different types of homelessness as more entrenched than others. In the present analysis the homeless portion of the continuum would begin with the transitional group followed by the episodic, late onset and end with the chronic group.

Considering a housing continuum also allows us to acknowledge the population that is “on the edge” of homelessness (Lee, Tyler, and Wright 2010). The size of this population is difficult to estimate because, for instance, the Census does not ask about “doubling up”. However, experts believe the category may encompass tens of millions of Americans. Given the range of reintegration challenges, many of the approximately four million ex-inmates in the general population may live on the edge, marginalized and socially excluded, and one misfortune away from actual homelessness. Future research might examine residential circumstances leading up to homelessness, particularly ex-inmates on the edge.

As is the case in most social science research, it is difficult to disentangle imprisonment effects from the selection processes that lead to differential rates of incarceration. It could be that many ex-inmates would have become homeless even in the absence of their index incarceration. If this was true, then incarceration would have little effect on homelessness. Unfortunately it is not possible to randomly assign individuals to incarceration to examine their reintegration experiences. While the goal of this research was to provide a descriptive portrait of homelessness among ex-inmates (i.e. not to establish causality), the results suggest that both causal and selection processes influence homelessness among ex-inmates. On the one hand, the chronic class of homelessness among ex-inmates provides evidence of selection. Ex-inmates in this class were likely to have been homeless prior their incarceration, suggesting that they may
have been homeless regardless of their exposure to incarceration. On the other hand, several aspects of the results suggest the influence of selection is mild at best. Recall that approximately 93% of homeless ex-inmates experienced homelessness for the first time after release. This finding strongly suggests that homelessness is a reintegration challenge.

Additionally, a growing body of experimental and panel data research has demonstrated that incarceration does indeed have a causal impact on subsequent life chances. For instance, Pager (2003) demonstrated that individuals with a criminal record were less likely to be hired than those with identical levels of education and employment experience and no record. Using matching methods, Massoglia (2008a; 2008b) found that individuals who had been incarcerated experienced more physical health limitations and higher rates of infectious disease than those who had never been incarcerated. Another study employing fixed effects methods found that chronic health problems increased after incarceration (Schnittker and John 2007). In sum, although many ex-inmates exhibit personal vulnerabilities prior to incarceration, research suggests that incarceration exacerbates them, resulting in reintegration difficulties (Wheelock and Uggen 2008).

**Policy Implications**

Because this study is among the first to examine long term homelessness patterns, more research is needed before drawing concrete policy conclusions. That said, one of my strongest findings pertains to parole. My results suggest that receiving parole dramatically reduces the risk of homelessness for ex-inmates. Notably, in Martinson’s (1974) infamous “nothing works” report on the state of corrections, one area he argued in favor of was parole. Martinson believed that while many aspects of the criminal justice system required reform, parole, in contrast,
should be expanded. Nearly 30 years later, my findings support Martinson’s sentiment. My findings suggest that extending parole to more individuals could reduce homelessness post-release. As noted earlier, parole officers may be important resources for ex-inmates and serve as an institutional buffer from homelessness.

Another contribution is the identification of key risk factors. Mental health problems, addiction, sentence completion, prior homelessness as well as increases in age and being African American all dramatically elevate the likelihood of homelessness for ex-inmates. Additionally, these are risk factors for the most intensive form of homelessness among ex-inmates. Research suggests that the chronic homeless, who comprise approximately 10% of the general homeless population, consume over half of shelter and emergency room services (Culhane and Metraux 2007). Hence using the risk factors identified in this research to target ex-inmates at risk for chronic homelessness may help reduce costs as well as homelessness.

A recent homelessness intervention program known as Housing First that is directed at the chronically homeless may be relevant to reducing homelessness among ex-inmates. Previous strategies involved addressing the disabilities that plague many homeless, such as mental illness, drug use, and skill deficits, with the hope that ‘fixing’ the homeless would lead to their ability to secure stable housing. In contrast, the platform of Housing First and related programs is to place the chronically homeless in stable housing, with the idea being that stable housing will alleviate many of their disabilities. While long term evaluation research is needed, experts and advocates are optimistic about the utility of Housing First approaches in reducing chronic homelessness (Tsemberis, Gulcur, and Nakae 2004).

Specific programs aside, my findings suggest that housing should be a priority of reintegration efforts. Interventions aimed at fostering reintegration are numerous and varied,
including transitional cash assistance, traditional workforce development efforts, transitional jobs, and reentry planning. In other words, housing is just one component of one type of program (reentry planning). Moreover, little evaluation research exists on the effectiveness of these interventions. In a review of existing studies, Raphael (2011) notes that the strongest evidence to date supports transitional employment for older ex-inmates (Uggen 2000), whereas support for transitional cash assistance programs is mixed. No research exists on other programs. Furthermore, my findings are consistent with the small body of work that exists on reintegration efforts emphasizes the importance of housing (Travis 2005; Roman and Travis 2006; Raphael 2011). Raphael (2011) and others argue that if ex-inmates were placed in stable housing, many reentry problems would be either resolved or prevented. Unfortunately, the use of halfway houses has been reduced in the past few decades for several reasons, including political and economic factors. Perhaps it is time to reconsider their utility.

One way to facilitate the process of obtaining housing post-release would be to lift current barriers to housing. For instance, the Department of Housing and Urban Development (HUD) requires that individuals physically present themselves as homeless at a shelter to be put on waiting lists for supportive housing. Yet shelters receive hundreds of letters annually from inmates soon to be released from prison asking for housing. Relatedly, President Clinton’s One Strike rule, which prohibits individuals convicted of drug offenses from living in public housing, may generate to homelessness over time. Prohibiting felons from applying for public housing or public assistance in many states may also influence homelessness. Lifting these kinds of barriers may be a good place to begin.
**Conclusion**

This research should encourage scholars and practitioners to alter their conception of the reintegration process; it is lengthier and far more complex than previous work has appreciated. Not only do ex-inmates become homeless long after release, but there are four distinct patterns of residential instability, illustrating that reintegration experiences are less uniform than commonly thought and are in fact, quite nuanced. Furthermore, consistent with ethnographic work and a cumulative disadvantage approach, incarceration may push many into lasting poverty (i.e. homelessness). Because this was the first study of its kind to examine patterns of extreme residential instability over time, these results should not be considered definitive. Nevertheless, they strongly suggest that ex-inmates have lasting housing difficulties and there is considerable heterogeneity in their experiences.
REFERENCES


Pecora, Peter J., Ronald C. Kessler, Kirk O’Brien, Catherine Roller White, Jason Williams, Eva Hiripi, Diana English, James White, Mary Anne Herrick. 2006. “Educational and
Employment Outcomes of Adults Formerly Placed in Foster Care: Results from the Northwest Foster Care Alumni Study.” Child and Youth Services Review 28:1459-1481.


Case cited:

### TABLE 1. DESCRIPTIVE STATISTICS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelter use</td>
<td>8.36%</td>
<td></td>
</tr>
<tr>
<td><strong>Health behaviors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intensive mental health services (PRT roster)</td>
<td>1.26%</td>
<td></td>
</tr>
<tr>
<td>Stable mental health services (MH/MR roster)</td>
<td>7.16%</td>
<td></td>
</tr>
<tr>
<td>Drug abuse</td>
<td>14.66%</td>
<td></td>
</tr>
<tr>
<td>Drug dependence</td>
<td>37.36%</td>
<td></td>
</tr>
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<td>Underweight</td>
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<td></td>
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<tr>
<td>Overweight</td>
<td>43.23%</td>
<td></td>
</tr>
<tr>
<td>Obese</td>
<td>26.22%</td>
<td></td>
</tr>
<tr>
<td><strong>Socio demographic characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at release (years)</td>
<td>34.81</td>
<td>9.22</td>
</tr>
<tr>
<td>African American</td>
<td>75.74%</td>
<td></td>
</tr>
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<td>High school diploma</td>
<td>46.56%</td>
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</tr>
<tr>
<td>More than HS diploma</td>
<td>3.81%</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>16.54%</td>
<td></td>
</tr>
<tr>
<td><strong>Index prison stay characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent offense</td>
<td>40.96%</td>
<td></td>
</tr>
<tr>
<td>Index stay was for a parole violation</td>
<td>40.61%</td>
<td></td>
</tr>
<tr>
<td>Sentence length (years)</td>
<td>2.88</td>
<td>3.11</td>
</tr>
<tr>
<td>Maxed out (served full sentence)</td>
<td>29.07%</td>
<td></td>
</tr>
<tr>
<td>Re-incarcerated during observation period</td>
<td>39.75%</td>
<td></td>
</tr>
<tr>
<td><strong>Prior behavior</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total previous incarcerations</td>
<td>1.75</td>
<td>1.86</td>
</tr>
<tr>
<td>Prior homelessness</td>
<td>0.89%</td>
<td></td>
</tr>
<tr>
<td><strong>Release year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>27.44%</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>23.01%</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>22.15%</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
N=11,849 males
Table 2. First Shelter Use by Years Post-Release

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>35.86%</td>
<td>355</td>
</tr>
<tr>
<td>2</td>
<td>20.51%</td>
<td>203</td>
</tr>
<tr>
<td>3</td>
<td>12.02%</td>
<td>119</td>
</tr>
<tr>
<td>4</td>
<td>10.10%</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>7.27%</td>
<td>72</td>
</tr>
<tr>
<td>6</td>
<td>5.56%</td>
<td>55</td>
</tr>
<tr>
<td>7</td>
<td>4.65%</td>
<td>46</td>
</tr>
<tr>
<td>8&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.04%</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>100.00%</td>
<td>990</td>
</tr>
</tbody>
</table>

Notes:

<sup>a</sup>year 8 is 10 months long
Table 3. Cox Regression Predicting Time to First Shelter Use

<table>
<thead>
<tr>
<th>Health behaviors</th>
<th>b</th>
<th>(SE)</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive mental health services (PRT roster)</td>
<td>0.825</td>
<td>(.169)</td>
<td>*** 2.282</td>
</tr>
<tr>
<td>Stable mental health services (MH/MR roster)</td>
<td>0.728</td>
<td>(.092)</td>
<td>*** 2.070</td>
</tr>
<tr>
<td>Drug abuse</td>
<td>-0.046</td>
<td>(.104)</td>
<td>0.955</td>
</tr>
<tr>
<td>Drug dependence</td>
<td>0.233</td>
<td>(.084)</td>
<td>** 1.263</td>
</tr>
<tr>
<td>Underweight</td>
<td>0.146</td>
<td>(.340)</td>
<td>1.157</td>
</tr>
<tr>
<td>Overweight</td>
<td>-0.046</td>
<td>(.075)</td>
<td>0.955</td>
</tr>
<tr>
<td>Obese</td>
<td>-0.207</td>
<td>(.088)</td>
<td>* 0.813</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Socio demographic characteristics</th>
<th>b</th>
<th>(SE)</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at release</td>
<td>0.163</td>
<td>(.011)</td>
<td>*** 1.178</td>
</tr>
<tr>
<td>African American</td>
<td>1.037</td>
<td>(.105)</td>
<td>*** 2.820</td>
</tr>
<tr>
<td>High school diploma</td>
<td>-0.035</td>
<td>(.066)</td>
<td>0.966</td>
</tr>
<tr>
<td>More than HS diploma</td>
<td>0.373</td>
<td>(.151)</td>
<td>* 1.452</td>
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<tr>
<td>Married</td>
<td>-0.466</td>
<td>(.099)</td>
<td>*** 0.628</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Index prison stay characteristics</th>
<th>b</th>
<th>(SE)</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violent offense</td>
<td>0.119</td>
<td>(.068)</td>
<td>1.126</td>
</tr>
<tr>
<td>Index stay was for a parole violation</td>
<td>-0.134</td>
<td>(.075)</td>
<td>0.875</td>
</tr>
<tr>
<td>Sentence length</td>
<td>-0.033</td>
<td>(.012)</td>
<td>** 0.967</td>
</tr>
<tr>
<td>Maxed out (served full sentence)</td>
<td>0.704</td>
<td>(.066)</td>
<td>*** 2.022</td>
</tr>
</tbody>
</table>

| Prior behavior                    | 1.000 |        |      |
| Total incarceration history        | 0.003 | (.022) | 1.003|
| Prior homelessness                | 1.995 | (.138) | *** 7.351|

<table>
<thead>
<tr>
<th>Release year</th>
<th>b</th>
<th>(SE)</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.089</td>
<td>(.088)</td>
<td>1.093</td>
</tr>
<tr>
<td>2001</td>
<td>0.066</td>
<td>(.102)</td>
<td>1.069</td>
</tr>
<tr>
<td>2002</td>
<td>0.031</td>
<td>(.095)</td>
<td>1.031</td>
</tr>
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Notes:
N=11,849 males
*p<.05, **p<.01, ***p<.001
Table 4. Descriptive Statistics of Latent Class Indicators

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prior homelessness</strong></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>93.06%</td>
</tr>
<tr>
<td>Yes</td>
<td>6.94%</td>
</tr>
<tr>
<td><strong>Number of spells</strong></td>
<td></td>
</tr>
<tr>
<td>1 spell</td>
<td>45.25%</td>
</tr>
<tr>
<td>2-3 spells</td>
<td>29.75%</td>
</tr>
<tr>
<td>4+ spells</td>
<td>25.00%</td>
</tr>
<tr>
<td><strong>Total duration</strong></td>
<td></td>
</tr>
<tr>
<td>30 days or less</td>
<td>29.09%</td>
</tr>
<tr>
<td>&gt;1-3 months</td>
<td>28.90%</td>
</tr>
<tr>
<td>&gt;3 months</td>
<td>42.02%</td>
</tr>
<tr>
<td><strong>Earliest point of entry</strong></td>
<td></td>
</tr>
<tr>
<td>6 months or less</td>
<td>26.62%</td>
</tr>
<tr>
<td>&gt;6 mo-2 years</td>
<td>29.28%</td>
</tr>
<tr>
<td>&gt;2 years</td>
<td>44.11%</td>
</tr>
</tbody>
</table>

N=990

Table 5. Latent Class Model Fit Statistics

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>G-squared</th>
<th>p-value</th>
<th>AIC</th>
<th>BIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 types of homelessness</td>
<td>38</td>
<td>128.38</td>
<td>0.00</td>
<td>158.38</td>
<td>232.75</td>
</tr>
<tr>
<td>3 types of homelessness</td>
<td>30</td>
<td>46.16</td>
<td>0.03</td>
<td>92.16</td>
<td>206.21</td>
</tr>
<tr>
<td>4 types of homelessness</td>
<td>22</td>
<td>19.66</td>
<td>0.60</td>
<td>81.66</td>
<td>235.38</td>
</tr>
<tr>
<td>5 types of homelessness</td>
<td>14</td>
<td>22.41</td>
<td>0.07</td>
<td>100.41</td>
<td>293.79</td>
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Table 6. Latent Classification of Homelessness Patterns

<table>
<thead>
<tr>
<th>Conditional probabilities</th>
<th>Chronic</th>
<th>Episodic</th>
<th>Late Onset</th>
<th>Transitional</th>
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<tr>
<td>Prior homelessness</td>
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<td></td>
<td></td>
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<tr>
<td>No</td>
<td>0.855</td>
<td>0.945</td>
<td>0.953</td>
<td>0.960</td>
</tr>
<tr>
<td>Yes</td>
<td>0.145</td>
<td>0.055</td>
<td>0.047</td>
<td>0.041</td>
</tr>
<tr>
<td>Number of spells</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 spell</td>
<td>0.073</td>
<td>0.047</td>
<td>0.297</td>
<td>0.939</td>
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<tr>
<td>2-3 spells</td>
<td>0.158</td>
<td>0.947</td>
<td>0.378</td>
<td>0.061</td>
</tr>
<tr>
<td>4+ spells</td>
<td>0.768</td>
<td>0.006</td>
<td>0.325</td>
<td>0.004</td>
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<tr>
<td>Total duration</td>
<td></td>
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<tr>
<td>30 days or less</td>
<td>0.010</td>
<td>0.159</td>
<td>0.001</td>
<td>0.667</td>
</tr>
<tr>
<td>&gt;1-3 months</td>
<td>0.097</td>
<td>0.637</td>
<td>0.165</td>
<td>0.319</td>
</tr>
<tr>
<td>&gt;3 months</td>
<td>0.893</td>
<td>0.204</td>
<td>0.834</td>
<td>0.014</td>
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<tr>
<td>Earliest point of entry</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6 months or less</td>
<td>0.544</td>
<td>0.257</td>
<td>0.073</td>
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</tr>
<tr>
<td>&gt;6 mo-2 years</td>
<td>0.435</td>
<td>0.411</td>
<td>0.049</td>
<td>0.278</td>
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<tr>
<td>&gt;2 years</td>
<td>0.022</td>
<td>0.332</td>
<td>0.878</td>
<td>0.524</td>
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<tr>
<td>Latent class probabilities</td>
<td>0.24</td>
<td>0.17</td>
<td>0.20</td>
<td>0.39</td>
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Notes:
Table 7. Significance Tests for Predicting Latent Class Membership

<table>
<thead>
<tr>
<th>Health behaviors</th>
<th>Change in 2*Log-Likelihood</th>
<th>DF</th>
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</thead>
<tbody>
<tr>
<td>Intensive mental health services (PRT roster)</td>
<td>6.92</td>
<td>3</td>
</tr>
<tr>
<td>Stable mental health services (MH/MR roster)</td>
<td>3.79</td>
<td>3</td>
</tr>
<tr>
<td>Drug abuse</td>
<td>4.47</td>
<td>3</td>
</tr>
<tr>
<td>Drug dependence</td>
<td>8.05</td>
<td>3</td>
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<tr>
<td>Underweight</td>
<td>5.70</td>
<td>3</td>
</tr>
<tr>
<td>Overweight</td>
<td>0.43</td>
<td>3</td>
</tr>
<tr>
<td>Obese</td>
<td>1.64</td>
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<table>
<thead>
<tr>
<th>Socio demographic characteristics</th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Age at release</td>
<td>25.91</td>
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<tr>
<td>African American</td>
<td>13.41</td>
<td>3</td>
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<tr>
<td>High school diploma</td>
<td>1.62</td>
<td>3</td>
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<tr>
<td>More than HS diploma</td>
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<tr>
<td>Married</td>
<td>1.48</td>
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</table>

<table>
<thead>
<tr>
<th>Index prison stay characteristics</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Violent offense</td>
<td>5.05</td>
<td>3</td>
</tr>
<tr>
<td>Index stay was for a parole violation</td>
<td>11.14</td>
<td>3</td>
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<tr>
<td>Sentence length</td>
<td>9.11</td>
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<tr>
<td>Maxed out (served full sentence)</td>
<td>36.28</td>
<td>3</td>
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<tr>
<td>Total incarceration history</td>
<td>2.28</td>
<td>3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Release year</th>
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</thead>
<tbody>
<tr>
<td>2000</td>
<td>4.89</td>
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<tr>
<td>2001</td>
<td>0.89</td>
<td>3</td>
</tr>
<tr>
<td>2002</td>
<td>2.23</td>
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Notes:
N=990
*p<.05, **p<.01, ***p<.001
### Table 8. Multinomial Regression Predicting Latent Class Membership (Reference=Chronic)

<table>
<thead>
<tr>
<th></th>
<th>Episodic b</th>
<th>SE</th>
<th>Late Onset b</th>
<th>SE</th>
<th>Transitional b</th>
<th>SE</th>
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<td><strong>Health behaviors</strong></td>
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<td></td>
</tr>
<tr>
<td>Intensive mental health services (PRT roster)</td>
<td>-0.239</td>
<td>(0.43)</td>
<td>0.508</td>
<td>(0.34)</td>
<td>-0.484</td>
<td>(0.34)</td>
</tr>
<tr>
<td>Stable mental health services (MH/MR roster)</td>
<td>-0.306</td>
<td>(0.23)</td>
<td>-0.314</td>
<td>(0.20)</td>
<td>-0.371</td>
<td>(0.17)</td>
</tr>
<tr>
<td>Drug abuse</td>
<td>-0.255</td>
<td>(0.28)</td>
<td>0.298</td>
<td>(0.23)</td>
<td>0.368</td>
<td>(0.20)</td>
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<tr>
<td>Drug dependence</td>
<td>0.337</td>
<td>(0.21)</td>
<td>0.539</td>
<td>(0.20)</td>
<td>0.514</td>
<td>(0.17)</td>
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<tr>
<td>Underweight</td>
<td>-1.546</td>
<td>(1.14)</td>
<td>-2.266</td>
<td>(1.21)</td>
<td>-0.483</td>
<td>(0.55)</td>
</tr>
<tr>
<td>Overweight</td>
<td>-0.005</td>
<td>(0.19)</td>
<td>-0.042</td>
<td>(0.17)</td>
<td>0.079</td>
<td>(0.15)</td>
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<td>Obese</td>
<td>-0.099</td>
<td>(0.22)</td>
<td>-0.280</td>
<td>(0.20)</td>
<td>-0.021</td>
<td>(0.17)</td>
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<td><strong>Socio demographic characteristics</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at release</td>
<td>-0.070</td>
<td>(0.03)</td>
<td>-0.099</td>
<td>(0.03)</td>
<td>-0.132</td>
<td>(0.02)</td>
</tr>
<tr>
<td>African American</td>
<td>-0.038</td>
<td>(0.29)</td>
<td>-0.265</td>
<td>(0.25)</td>
<td>-0.783</td>
<td>(0.21)</td>
</tr>
<tr>
<td>High school diploma</td>
<td>0.257</td>
<td>(0.16)</td>
<td>0.160</td>
<td>(0.15)</td>
<td>0.135</td>
<td>(0.13)</td>
</tr>
<tr>
<td>More than HS diploma</td>
<td>0.878</td>
<td>(0.36)</td>
<td>0.655</td>
<td>(0.36)</td>
<td>0.285</td>
<td>(0.33)</td>
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<tr>
<td>Married</td>
<td>-0.096</td>
<td>(0.25)</td>
<td>0.231</td>
<td>(0.22)</td>
<td>-0.036</td>
<td>(0.19)</td>
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<tr>
<td><strong>Index prison stay characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent offense</td>
<td>-0.450</td>
<td>(0.17)</td>
<td>-0.089</td>
<td>(0.15)</td>
<td>-0.186</td>
<td>(0.13)</td>
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<td>Index stay was for a parole violation</td>
<td>0.153</td>
<td>(0.18)</td>
<td>0.438</td>
<td>(0.17)</td>
<td>0.518</td>
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<td>Sentence length</td>
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<td>Maxed out (served full sentence)</td>
<td>-0.356</td>
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<td>-0.891</td>
<td>(0.15)</td>
<td>-0.798</td>
<td>(0.13)</td>
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<td>Total incarceration history</td>
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<td>-0.034</td>
<td>(0.20)</td>
<td>0.207</td>
<td>(0.17)</td>
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<td><strong>Release year</strong></td>
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</tr>
<tr>
<td>2000</td>
<td>-0.146</td>
<td>(0.25)</td>
<td>0.044</td>
<td>(0.24)</td>
<td>0.114</td>
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<td>2001</td>
<td>-0.050</td>
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<td>0.247</td>
<td>(0.21)</td>
<td>0.243</td>
<td>(0.19)</td>
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<tr>
<td>2002</td>
<td>-0.095</td>
<td>(0.06)</td>
<td>-0.073</td>
<td>(0.05)</td>
<td>-0.068</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Constant</td>
<td>5.560 (0.85) ***</td>
<td>3.525 (0.97) ***</td>
<td>2.471 (1.09) *</td>
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<td>----------</td>
<td>------------------</td>
<td>------------------</td>
<td>----------------</td>
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</tbody>
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Notes:
N=990
*p<.05, **p<.01, ***p<.001
Table 9. Descriptive Profiles of Latent Classes and the Non-Homeless

<table>
<thead>
<tr>
<th></th>
<th>Chronic</th>
<th>Episodic</th>
<th>Late Onset</th>
<th>Transitional</th>
<th>Non-Homeless</th>
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<td><strong>Health behaviors</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Intensive mental health services (PRT roster)</td>
<td>4.7%</td>
<td>4.1%</td>
<td>6.0%</td>
<td>2.1%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Stable mental health services (MH/MR roster)</td>
<td>17.7%</td>
<td>14.6%</td>
<td>17.7%</td>
<td>13.4%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Drug abuse</td>
<td>12.5%</td>
<td>9.3%</td>
<td>12.7%</td>
<td>14.1%</td>
<td>14.8%</td>
</tr>
<tr>
<td>Drug dependence</td>
<td>41.0%</td>
<td>40.4%</td>
<td>45.0%</td>
<td>43.0%</td>
<td>36.8%</td>
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<tr>
<td>Underweight</td>
<td>1.6%</td>
<td>0.6%</td>
<td>0.3%</td>
<td>0.8%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Overweight</td>
<td>45.0%</td>
<td>43.1%</td>
<td>46.3%</td>
<td>46.2%</td>
<td>43.0%</td>
</tr>
<tr>
<td>Obese</td>
<td>23.7%</td>
<td>25.2%</td>
<td>21.8%</td>
<td>24.7%</td>
<td>26.5%</td>
</tr>
<tr>
<td><strong>Socio demographic characteristics</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at release</td>
<td>40.1</td>
<td>39.3</td>
<td>39.0</td>
<td>38.2</td>
<td>34.4</td>
</tr>
<tr>
<td>African American</td>
<td>85.9%</td>
<td>89.3%</td>
<td>89.7%</td>
<td>85.9%</td>
<td>74.6%</td>
</tr>
<tr>
<td>High school diploma</td>
<td>42.7%</td>
<td>47.0%</td>
<td>47.5%</td>
<td>46.9%</td>
<td>46.6%</td>
</tr>
<tr>
<td>More than HS diploma</td>
<td>4.0%</td>
<td>5.2%</td>
<td>5.6%</td>
<td>4.6%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Married</td>
<td>11.7%</td>
<td>10.6%</td>
<td>14.0%</td>
<td>11.7%</td>
<td>17.0%</td>
</tr>
<tr>
<td><strong>Index prison stay characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent offense</td>
<td>43.6%</td>
<td>39.0%</td>
<td>43.6%</td>
<td>40.1%</td>
<td>40.9%</td>
</tr>
<tr>
<td>Index stay was for a parole violation</td>
<td>45.0%</td>
<td>47.0%</td>
<td>45.7%</td>
<td>46.8%</td>
<td>40.2%</td>
</tr>
<tr>
<td>Sentence length</td>
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<td>-0.2</td>
<td>-0.1</td>
<td>0.0</td>
<td>0.0</td>
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<tr>
<td>Served full sentence</td>
<td>62.6%</td>
<td>51.0%</td>
<td>44.9%</td>
<td>46.4%</td>
<td>26.8%</td>
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<tr>
<td>Incarceration history</td>
<td>2.0</td>
<td>1.8</td>
<td>1.9</td>
<td>1.9</td>
<td>1.7</td>
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<td><strong>Release year</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>26.5%</td>
<td>23.0%</td>
<td>25.0%</td>
<td>29.8%</td>
<td>27.4%</td>
</tr>
<tr>
<td>2001</td>
<td>27.4%</td>
<td>25.3%</td>
<td>23.0%</td>
<td>22.7%</td>
<td>22.8%</td>
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<td>2002</td>
<td>21.2%</td>
<td>24.4%</td>
<td>24.7%</td>
<td>24.3%</td>
<td>22.0%</td>
</tr>
</tbody>
</table>
Figure 1. U.S. Incarceration Rate per 100,000, 1925-2011

Figure 2. Total Incarceration Rates per 100,000 for Selected Nations, 2010

- United States
- Russia
- South Africa
- Singapore
- Brazil
- Mexico
- Scotland
- England & Wales
- Australia
- China
- Croatia
- Canada
- Greece
- France
- Netherlands
- Germany
- Switzerland
- Sweden
- Denmark
- Norway
Figure 3. U.S. Incarceration Rate per 100,000 and Total Homeless Population, 1980-2010

Incarceration Rate per 100,000

Total Homeless Population

Figure 4. Conceptual Model of Homelessness among Ex-inmates

Structural Force: Incarceration boom → At-risk Population: Ex-inmates → Homelessness Patterns

Personal Vulnerabilities

Institutional Experiences

Collateral Consequences

Buffers
Figure 5. Time to First Shelter Use*

(a) Smoothed Hazard Estimate

(b) Cumulative Hazard Estimate
Figure 6. Shelter Use Risk by Predictors

(a) By Mental Health Status

(b) By Substance Use
*Note: All Y axes are the same with the exception of panel (i).
Figure 7. Compounded Shelter Use Risks

(a) High Risk

(b) Medium and Low Risks
Figure 8. Class Variation on Homelessness Indicators

(a) Prior Homelessness

(b) Total Number of Spells
(c) Total Duration of Homelessness

(d) Time to Homelessness Post-Release
APPENDIX. TEXAS CHRISTIAN UNIVERSITY DRUG SCREEN II

All responses are yes/no.

During the last 12 months (before being locked up):

1. Did you use larger amounts of drugs or use them for a longer time than you had planned?
2. Did you try to cut down on your drug use but were unable to do it?
3. Did you spend a lot of time getting drugs, using them, or recovering from their use?
4. Did you get so high or sick from drugs that it—
   a. Kept you from doing work, going to school, or caring for children?
   b. Caused an accident or put you or others in danger?
5. Did you spend less time at work, school, or with friends so that you could use drugs?
6. Did your drug use cause—
   a. Emotional or psychological problems?
   b. Problems with family, friends, work, or police?
   c. Physical health or medical problems?
7. Did you increase the amount of a drug you were taking so that you could get the same effects as before?
8. Did you ever keep taking a drug to avoid withdrawal or keep from getting sick?
9. Did you get sick or have withdrawal when you quit or missed taking a drug?
CURRENT POSITION
Assistant Professor of Sociology and Criminology, Villanova University. 2013-Present.

EDUCATION
B.A. in Criminal Justice Studies and Sociology, University of Dayton. 2007.

AREAS OF INTEREST
Crime and Deviance; Punishment and Inequality; the Life Course

AWARDS
Second Prize, Graduate Student Paper Competition, Pennsylvania State University, Crime, Law, and Justice Program for “The Role of Self-Control in the Depression-Delinquency Link”. 2012.
First Prize, Graduate Student Paper Competition, Pennsylvania State University, Crime, Law, and Justice Program for “Does the Type of Volunteering Matter? Disentangling the Effects of Pro Social Behavior on Arrest”. 2011

PUBLICATIONS