RACIAL DISPARITIES AND PLACE EFFECTS FOR HOUSING INSTABILITY AND HOMELESSNESS IN THE U.S.

by

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ABSTRACT

This dissertation examines the effects of race, neighborhood poverty, and racial segregation on homelessness and housing instability in the U.S. African Americans are disproportionately represented in the American homeless population, yet little research has explored this racial inequality. This study contributes to the literature by examining Black-White disparities for multiple measures of housing instability, including homelessness, and the individual pathways underlying these differences. In addition, community-level segregation and poverty have helped to explain racial disparities in other outcomes for health and wellbeing. I also examine the effects of community-level segregation and poverty on housing instability and homelessness in general and on racial disparities in particular.

Using data from the Fragile Families and Child Wellbeing (FFCW) longitudinal survey, I find that Black mothers have higher odds of experiencing homelessness and doubling-up with others for financial reasons, but no such differences were found for odds of eviction or frequent moves. Additionally, neighborhood poverty and segregation are significant for some measures of housing instability over and above individual socioeconomic characteristics. For homelessness specifically, due to the difficulty obtaining sufficient and quality data, I use two datasets to explore race and place effects for this outcome. Using administrative data from the U.S. Department of Housing and Urban Development, I find that racial segregation contributes to the disproportionate number of Black persons in the homeless population. Finally, using a restricted sample from the FFCW survey to mirror program targeting, I find that risk factors differ for Black and White mothers for homelessness.

I dedicate this dissertation to my grandmothers, Ora Workman and Audrey Day.

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CHAPTER 1

RACIAL DISPARITIES AND CONTEXTUAL FACTORS CONTRIBUTING TO HOUSING INSTABILITY AND HOMELESSNESS

Introduction

Homelessness and housing instability can have a negative impact on one's social mobility, health and wellbeing. Housing stability and homelessness over the lifecourse can be important for childhood development as well as many other health outcomes later in life (Adam & Chase-Lansdale, 2002; Crowley, 2003; Schmitz, Wagner, & Menke, 1995). In addition, communities with high levels of residential turnover may suffer from a deficiency of social capital (Coulton, Theodos, & Turner, 2009). According to the U.S. Department of Housing and Urban Development (HUD), it is estimated that 1.5 million people experience homelessness in the U.S. and a disproportionate share are racial and ethnic minorities (AHAR, 2012). Many more people, however, experience housing instability or the need to move due to unemployment, divorce or other hardships, which can sometimes, but not always, include episodes of literal homelessness. The U.S. Census estimated roughly 69 million people were doubled-up for economic reasons in 2011 (Johnson, 2011).

African Americans in particular are disproportionately represented in the homeless population compared to their proportion in the total population and still larger than the proportion of African Americans living in poverty. This pattern is consistent with health disadvantages of African Americans routinely observed in the health stratification literature,

which have been attributed to place based factors such as neighborhood poverty and racial segregation (Cagney, Browning, & Wen 2006). While the explanations of racial and ethnic disparities have been explored in many fields, there has yet to be the same attention in the homelessness and housing instability literature.

Racial and ethnic disparities exist in a wide range of social, economic, behavioral, and health outcomes. The existing evidence on these topics, as they relate to homelessness, often focus on individual-level characteristics with contextual factors at the neighborhood level rarely assessed in terms of how they might operate as mediators of racial disparities for housing instability and homelessness. Given that homeless persons are often from poorer communities and are more likely to be African American, the need to understand contextual pathways to homelessness as mechanisms explaining why African Americans are particularly disadvantaged is important for addressing housing instability and homelessness. To date, no studies to my knowledge have explicitly tested the potential relationship between racial segregation, neighborhood SES and homelessness or housing instability, though many have posited the importance of place for individual risk (Shinn, 2007; Shinn & Baumohl, 1998; Wolch & Dear, 2005). Policies that address contextual factors such as neighborhood resources or social and economic integration may be more effective at reducing homelessness and housing instability than prevention models that rely on predicting an individual's
chances based on their individual characteristics.

Housing Instability and Homelessness

Housing instability and homelessness are difficult to characterize and measure. For the purposes of this dissertation I consider homelessness a form of housing instability but I often discuss it separately because of its unique policy implications and social impact.

Homelessness can be characterized in many ways; according to HUD, a person experiencing 'literal homelessness' is defined as someone without a fixed address who is sleeping in places not meant for habitation, in an emergency shelter, or who will soon be evicted or released from an institution without a stable place to live. More recently, according to federal legislation, homelessness has been more broadly defined to include severe housing instability or doubling-up with other households for economic reasons, those who move frequently, and those deemed at risk of homelessness for eligibility in certain programs (HUD, 2011).

Housing instability is highly correlated with instances of literal homelessness (Bassuk et al., 1997; Cunningham et al., 2010; Rog et al., 2007; Weitzman et al., 1990). According to Wright and colleagues, "Actual homelessness is frequently but one stage in an overall pattern of residential instability. Therefore, homelessness itself cannot be fully understood without examining other related housing problems" (Wright, Caspi, Moffitt, & Silva, 1998 p 93). Indeed, Schmitz et al. (1995), in a study of children ages 8-12, found that housing instability generally, and not only the instance of literal homelessness, mattered for child development. Unlike homelessness, housing instability is not well defined in the literature. Studies on housing instability have used measures of whether someone is unable to afford housing, moved more than two or three times in a year, doubled-up or stayed with friends or family for financial reasons, or stayed in places not suited for decent or safe housing in order to capture tenuous housing circumstances (Curtis, Corman, Noonan, & Reichman, 2011; Kushel, Gupta, Gee, & Haas, 2006; Suglia, Duarte, & Sandel, 2011). Throughout the dissertation, homelessness and housing instability will most often be referred to as HHI.

Place Stratification, Social Isolation, and Social Disorganization

Several theories help to explain the spatial patterning of people by race and class as well as the effects these patterns have on a range of outcomes. Place stratification theory best describes the spatial patterning of African Americans in the U.S. as resulting from historic and contemporary discrimination. Discriminatory practices, such as in housing markets, prevent people of color from moving to where they want to live regardless of their resources. Due to higher structural barriers to residential mobility for Blacks, individual factors such as socioeconomic status, life stage and neighborhood dissatisfaction are less likely to result in residential mobility among Blacks from segregated areas as compared to Whites and other racial and ethnic groups (South & Crowder, 1998; South & Deane, 1993). Therefore, persons discriminated against are hindered from translating a positive gain in social standing into moving to a better neighborhood (Charles, 2003; Logan & Stults, 2011).

Although racial segregation has somewhat decreased over the past decade, Blacks remain the most segregated group and are more isolated from Whites than other racial or ethnic minorities (Logan & Stults, 2011; Logan, Stults, & Farley, 2004). Constrained spatial mobility matters because it can isolate disadvantaged persons from other groups geographically and socially. William J. Wilson, in his book *The Truly Disadvantaged*, describes the concept of social isolation as "the lack of contact or of sustained interaction with individuals and institutions that represent mainstream society" (Wilson, 1987, p. 60). Social isolation can act as an important mechanism to reinforce racial inequalities. For African Americans in racially segregated neighborhoods, this means limited contact with nonsegregated persons, limited political representation, and economic isolation (Massey & Denton, 1993). Housing, labor, and credit markets are also key components of social isolation. Social isolation means segregated communities lack the political power or the

ability to leverage economic resources to recruit employers or developers into their communities. Therefore, these resources are located elsewhere, which can create a physical and social distance, or spatial mismatch, between residents in segregated communities and good jobs, thus contributing to poor economic conditions (Fernandez & Su, 2004).

Neighborhood conditions, in addition to social isolation from outside resources, can contribute to racial disparities in wellbeing (Williams & Collins, 2001). When groups are segregated into different neighborhoods, disparate environments can operate as a mechanism to further exacerbate racial differences in opportunities and harm. Physical and material environments lacking quality housing, safe and available parks, recreational opportunities, and other services can impede a community's ability to organize and create improvements and protections for residents. Social environment also matters for the health and wellbeing of residents. Shaw and McKay (1942) seminal theory on social disorganization pointed to community-level capacity to maintain social order as influencing delinquency rates. They theorized that community capacity was hindered when residents had lower socioeconomic status, were ethnically diverse, and had high residential turnover and family disruption, making social bonds and collective action difficult to achieve and maintain (Sampson & Groves, 1989). Neighborhood social and physical environments resulting from social disorganization can hinder individual progress among minority groups and reinforce racial inequalities.

Racial Disparities, Place Effects and Housing Instability and Homelessness

Racial disparities are prevalent across a variety of outcomes, including health, wealth, income, marriage, and crime. African Americans compared to Whites in the U.S. have worse outcomes as the result of individual and structural forms of discrimination. Focusing on

structural forms of discrimination, or place effects resulting from place stratification and social isolation discussed above, has been attributed to racial disparities in several outcomes. According to the health, stratification, and criminology literatures, residential segregation between Blacks and Whites has persistently contributed to alarming disadvantages of Blacks in a range of health and wellbeing outcomes. For instance, several studies have linked segregation to Black-White disparities in adult mortality (Collins & Williams, 1999; Hart, Kunitz, Sell, & Mukamel, 1998). For mortality, studies have found diverse outcomes where concentration and isolation of Blacks have both demonstrated deleterious effects for Black mortality (Guest, Almgren, & Hussey, 1998; Jackson, Anderson, Johnson, & Sorlie, 2000; LeClere, Rogers, & Peters, 1997) and also protective effects for concentration lowering Black mortality rates (Inagami et al., 2006; Smaje, 1995). Presumably, place effects may also be operating to create racial disparities in the homeless population and perhaps also among those experiencing housing instability generally.

According to the 2011 Annual Homelessness Assessment Report (AHAR) presented to the U.S. Congress, African Americans are three times more likely to show up in the homeless population than in the general population (AHAR, 2011). Specifically, the AHAR reported that roughly 38% of the total homeless population in the U.S. is Black compared to just 12.6% in the total population; Non-Hispanic Whites, in contrast, make up 39.5% of the homeless population and 64% of the total U.S. population. African Americans also have higher prevalence rates among both families with children and single adults experiencing homelessness (Burt, Aaron, Lee, & Valente, 2001).

Racial disparities in health and social wellbeing have not been fully explained by individual-level characteristics, and a generous body of research points to larger social and economic environments that play an additional role (Do et al., 2008; Geronimus, Bound,

Waidmann, Colen, & Steffick, 2001; Massey, Gross, & Eggers, 1991; Takeuchi, Walton, & Leung, 2010). Essentially, where someone lives and the landscape of his or her daily life can shape life chances and exposures beyond individual characteristics. In addition, these environments, and specifically neighborhoods, vary dramatically across the U.S. and are important for contextualizing one's housing experience.

In addition to social isolation due to higher levels of segregation, Blacks are more likely to live in poorer communities regardless of their individual socioeconomic status (Logan & Stults, 2011). Specifically, African Americans in the U.S. make up roughly 45%, or the largest share, of those residing in areas of concentrated poverty (Berube, 2012; Kneebone, Nadeau, & Berube, 2011). Areas with high poverty rates are often characterized as neighborhoods or census tracts having higher rates of welfare dependency, single mother households, unemployed adult men, lower levels of high school graduation, high residential mobility, and higher concentrations of immigrants (Kneebone et al., 2011; Wilson, 1987). Neighborhood SES both in terms of poverty and affluence has been linked to racial disparities in health (Cagney, Browning, & Wen, 2005; Geronimus et al., 2001). Moreover, neighborhood SES in conjunction with racial segregation has been found to explain Black-White disparities for mortality and crime (Collins & Williams, 1999; Guest et al., 1998; Moiduddin & Massey, 2006; Peterson & Krivo, 1999).

While there is debate about the primacy of segregation by race or by class, in either instance African Americans are disproportionately represented in poor communities (Jargowsky, 1996; Wilson, 1987). Thus living in racially segregated neighborhoods can mean poorer quality of schools accessible to residents, fewer job opportunities, lower wages, lower home equity, which is often related to one's wealth, fewer or poorer quality services, and lower social capital for Blacks compared to Whites (Collins & Williams, 1999; Wilson, 1987).

Overall, these factors can contribute to an increased risk for homelessness as well as explain the higher prevalence of homelessness for African Americans.

Very rarely have place effects been evaluated for individual risk of homelessness, due to a lack of individual-level data across areas. Two studies, however, have found evidence that persons experiencing homelessness originate from specific residential areas (Culhane, Lee, & Wachter, 1996; Rukmana, 2010). These areas were characterized by high proportions of African Americans, female-headed households, economic deprivation, poor housing, and lower levels of housing affordability. And only a few studies have looked at the multilevel influences of contextual factors on individuals' risk of becoming homeless.

Two multilevel studies using the Fragile Families and Child Wellbeing survey found significant city-level effects of affordability of rental housing, at the metropolitan level, on risk of homelessness for mothers with young children controlling for individual risk factors (Curtis et al., 2011; Fertig & Reingold, 2008). Curtis et al. (2011) found that higher levels of fair market rent interacted with child health so that mothers with sick children were more likely to become homeless in high rent areas as opposed to low rent areas. Fertig and Reingold (2008) found that housing affordability measured as the percent of apartments with rents below 30% of the city's median family income was significant and protective for homelessness one year after the child's birth. These studies had mixed results in terms of whether race and ethnicity were significant for homelessness. Individual and contextual factors were analyzed simultaneously or presented separately. Therefore, in these studies it is not possible to determine if contextual factors influenced individual risk factors for homelessness, such as race or ethnicity. Significant race effects could be explained by additional contextual measures such as segregation, neighborhood deprivation, and social processes.

Many ecological studies explore structural factors that could explain the overall rates of homelessness across areas (Bohanon, 1991; Elliott & Krivo, 1991; Honig & Filer, 1993; Lee, Price-Spratlen, & Kanan, 2003). Housing affordability is consistently attributed to rates of homelessness controlling for other structural factors. Overall homelessness rates include several subpopulations, each having its own unique risks and experiences. Therefore, unpacking the homelessness rate and assessing structural attributes for specific subpopulations may be more useful. In recent years, more geographic areas are able to contribute higher quality data, making it possible to conduct more nuanced ecological analyses of homelessness. At the ecological level, segregation and poverty concentration are theorized to explain the disproportionate representation of African Americans in the homeless population. The greater number of people residing in poor and segregated areas presumably would contribute to greater numbers of people experiencing homelessness.

The Current Study

The purpose of this dissertation is to contribute to the literature by exploring racial disparities in homelessness and housing instability as well as individual and contextual factors that could explain any disparity. Analyses exploring the individual and contextual factors relating to the incidence of housing instability and homelessness are based on unique survey data from mothers participating in the Fragile Families and Child Wellbeing (FFCW) survey. Using this survey, I examine the extent of racial disparities and the individual and contextual pathways that may explain these racial disparities, which is the subject of Chapter 2. Chapter 3 focuses on place effects. Here I explore the direct effects of neighborhood poverty and racial segregation for homelessness and several measures of housing instability, and the indirect effects through individual characteristics that may contribute to these outcomes.

In Chapter 4, I focus specifically on homelessness. In order to understand

homelessness apart from other forms of housing instability I reduce the FFCW survey to only those experiencing homelessness. Herein I assess whether the characteristics of those who become homeless in the full survey are similar to those considered already at a high risk of homelessness, such as those without stable housing, and those who would most likely be targeted for homeless prevention services. In addition to this multilevel analysis of FFCW data, I also include an ecological study of homelessness based on data collected by the Department of Housing and Urban Development. These data, which characterize persons experiencing homelessness, are suitable for exploring racial disparities in homeless populations across the U.S. and how these disparities might be related to concentrated poverty and racial segregation.

In Chapter 5, I discuss the overall findings of each of these studies, how these findings related to each other and complement or fill in gaps in the existing literature on housing instability and homelessness. Lastly, I discuss the limitations of my research, and propose future research and implications for policy makers.

CHAPTER 2

RACIAL DISPARITIES IN HOUSING INSTABILITY AND HOMELESSNESS: INDIVIDUAL AND CONTEXTUAL PATHWAYS

Introduction

African Americans are overrepresented in the homeless population relative to their proportion in the total population and the proportion of Blacks living in poverty in the United States (AHAR, 2012). Black-White disparities exist in a wide range of social, economic, behavioral, and health outcomes and are important for understanding the experience of African Americans in the U.S. While the patterns and explanations of racial disparities have been explored in many fields, there has yet to be the same attention for housing instability and homelessness (Carter, 2011). Housing instability and homelessness may contribute to, and be the result of, racial disparities in other health and wellbeing outcomes, thereby making housing policy important for racial equality.

A handful of studies have examined individual-level factors such as SES, health, and substance abuse as predictors of homelessness stratified by racial groups (First, Roth, & Arewa, 1988; Hickler & Auerswald, 2009; North & Smith, 1994). However, contextual factors such as neighborhood poverty or racial segregation, which may shape individuals' risks of homelessness or housing instability, have yet to be explored as possible contributors to racial disparities beyond the mediating effects of individual-level factors.

The purpose of this study is to examine the patterns of Black-White differences in

frequent moves, evictions, doubling-up, and homelessness and explore the role that individual and contextual factors may play in mediating Black and White disparities in the risk of homelessness and housing instability. To examine these questions, I use nationally representative survey data from mothers who had recently given birth and are participating in the Fragile Families and Child Wellbeing FFCW) survey.

Racial Disparities in Housing Instability and Homelessness

Extant research has extensively examined residential mobility differences between Blacks and Whites. In these studies, Blacks have been found to move more often than Whites controlling for socioeconomic status and homeownership (Adams, 2006; South & Deane, 1993). For low-income Blacks, moving residences is more often associated with housing crises or the end of a rental lease agreement making their movement more involuntary or unstable (Crowley, 2003; DeLuca, Rosenblatt, & Wood, 2011; Fairchild & Tucker, 1982).

Studies on housing instability most often focus on literal homelessness or staying in a shelter or place not meant for habitation. Several studies, assessing the risk of homelessness for families, determine risk by comparing the characteristics of families entering emergency shelters with families receiving welfare benefits. These studies have found significantly higher rates of African American mothers entering shelters than African American mothers on welfare (Bassuk et al., 1997; McChesney, 1995; Shinn et al., 1998). The use of welfare recipients as a control group, however, may not represent all families at risk of homelessness. In addition, families may become homeless without entering an emergency shelter. Overall, these studies are based on single cities making it difficult to generalize the effect of race as a risk factor for family homelessness.

For housing instability indicators other than homelessness, Carter (2011) found

African Americans were more likely than Whites to live in inadequate or overcrowded housing after controlling for demographic and socioeconomic factors using nationally representative data from the American Housing Survey (AHS). Similarly, Phinney, Danziger, Pollack, and Seefeldt (2007), using the Women's Employment Study for Urban Michigan, found African Americans were more likely than Whites to experience homelessness net of socioeconomic factors but found no race differences for those experiencing a housing eviction. Koebel and Murray (1999) found, using the AHS, that African Americans were more likely to double-up or form extended families than Whites; however, income was not related to the extension of households. Whether doubling-up was considered equivalent to homelessness or an effective strategy for sharing social and economic resources was not discernable in the study but was well discussed. Overall, racial disparities across a wide array of housing instability indicators have not been fully explored and may not be homogeneous.

Individual, Ecological, and Contextual Explanations

Figure 1 provides a conceptual framework explaining how racial disparities in housing instability and homelessness can be mediated by a range of individual-level factors as well as neighborhood-level factors. Specifically, race may operate through differences in demographic or socioeconomic characteristics of the mother, the mother's health, her social support, the quality of the relationship with her current partner, and whether she or her current partner have spent time in jail. In addition, the concentration of poor or Black persons in the neighborhood may affect a mother's risk of HHI over and above her individual characteristics.

Demographic Factors and Socioeconomic Status

Many studies on housing instability, particularly homelessness, have focused on female-headed households in order to understand what factors put mothers and their children at risk for a wide array of poor outcomes across the lifecourse. In studies of families, several demographic and lifecycle determinants have been identified relating to HHI. Families more likely to experience HHI are primarily headed by single women (Burt et al., 2001), and mothers tend to be younger than their stably housed counterparts (Fertig & Reingold, 2008; Weitzman, Knickman, & Shinn, 1992). The number of children in the household was also found to be a significant predictor of housing instability when comparing doubled-up and homeless mothers to mothers with extremely low income (Fertig & Reingold, 2008). These characteristics are consistent for African American mothers. African American mothers tend to be younger at first birth and (Rindfuss & John, 1983) and are more likely to be single and have more children than non-Hispanic Whites (Cherlin, 2010). The disproportionate representation of Black mothers may explain these other demographic trends in HHI.

Families experiencing HHI have been found to have significantly lower socioeconomic status (SES) than their stably housed counterparts. Specifically, having at least a high school education is associated with more stable housing and lower odds of homelessness than having less than a high school education (Curtis et al., 2011; Phinney et al., 2007; Weitzman et al., 1992; Wood, Valdez, Hayashi, & Shen, 1990). Other measures of SES such as homeownership and household income have not typically been included in studies of housing instability because these studies tend to focus on samples of poor families rather than population based samples. However, in studies that do include these socioeconomic indicators, having more income, having income specifically from

employment, and owning a home or receiving a housing subsidy, net of high school education were protective for HHI (Bassuk et al., 1997; Fertig & Reingold, 2008; Shinn et al., 1998).

African Americans are significantly disadvantaged economically compared to Whites. Roughly 10% of Whites live below the poverty level, compared to over 20% for Blacks (U.S. 2007-2011 American Community Survey). In addition, homeownership rates are lower for Blacks than Whites (Flippen, 2001; Krivo & Kaufman, 2004). Homeownership and income are great stabilizing forces when it comes to housing. Blacks also have less education than Whites and are more often unemployed and have lower wages than Whites (Pager & Shepherd, 2008). Presumably racial disparities in SES could help to explain racial disparities in HHI. Studies that have found significant effects for SES related to HHI have also included race (Astone & McLanahan, 1994; Carter, 2011); however without looking at these effects separately it is not possible to discern whether SES might be explaining race effects for HHI.

Health

Poor health has most often been studied as a consequence of housing instability, but it can also contribute to housing instability (Jelleyman & Spencer, 2008; Lee, Tyler, & Wright, 2010). For instance Phinney et al. (2007) found drug abuse, mental health, and physical health problems significantly predicted homelessness, and drug abuse significantly predicted evictions among a cohort of 536 women surveyed between 1997 and 2003 in urban Michigan. Having a substance use disorder or a physically disabling condition can compromise one's ability to gain or maintain employment, thereby reducing earning potential. In addition, these conditions can place strain on one's social network or strain one's relationship with landlords and neighbors, which can compromise housing retention

and limiting housing supports or opportunities. The stress of experiencing HHI can also contribute to these conditions.

Blacks have worse physical health than Whites, including higher rates of chronic health conditions, higher mortality, and poorer self-rated health (Cagney et al., 2005; Hayward, Miles, Crimmins, & Yang, 2000; Williams, 1999). Controlling for socioeconomic status, Blacks have lower levels of substance use disorders than Whites (Watt, 2008). However, Wells, Klap, Koike, and Sherbourne (2001) found fewer options and services for substance abuse treatment were available to Blacks than Whites according to a national survey.

Social Support

Social networks are a crucial safety net for people experiencing HHI. Social networks often prevent members from being homeless by loaning money for housing or by offering a place for someone to stay. Larger social networks, which cast a wider net for these resources, were found to be protective for homelessness (Bassuk et al., 1997). Fertig and Reingold (2008) found homeless families were significantly less likely to have family members willing to loan money, providing housing or babysit compared to those living in extreme poverty. Another study found while there were close relationships between homeless families and other family members, they had exhausted their social resources before entering emergency shelters (Shinn, Knickman, & Weitzman, 1991).

Social ties can vary largely according to SES and race so that African Americans tend to have fewer bridging ties to help with accessing jobs or provide mentoring or other resources (Desmond, 2012; Wilson, 1987). For single, low-income mothers, social support can sometimes conflict with social mobility; accessing resources needed to get by—such as childcare and the like—can create reciprocal obligations that take away opportunities to

advance education or employment (Domínguez & Watkins, 2003).

Relationship Quality

Domestic violence is a significant predictor of homelessness and housing instability for women and children (Fertig & Reingold, 2008; Phinney et al., 2007; Shinn et al., 1998). Pavao, Alvarez, Baumrind, Induni, and Kimerling (2007), using a population based survey in California, found that women who had experienced intimate partner violence were four times more likely to experience housing instability, late payments, frequent moves, or doubling-up with others than women who had not. Women fleeing domestic violence often have additional barriers to housing, including having a criminal record, poor rental history, and having less access to household income (Baker, Billhardt, Warren, Rollins, & Glass, 2010). Racial and ethnic disparities in interpersonal violence have been well established. Rates of domestic violence are higher among African Americans than Whites. African Americans disproportionately experience risk factors of domestic violence including financial strain, substance abuse, and living in disadvantaged neighborhoods (Benson, Wooldredge, Thistlethwaite, & Fox, 2004).

In addition, life events such as divorce or relationship breakups can be a risk factor for HHI (Burt et al., 2001). Breakups often necessitate that at least one party must move from the household. If the breakup is sudden or if the party who must move does not have enough resources they are at risk of experiencing HHI. Even if partners do not cohabitate, there may be a sharing of resources, financially or functionally, that support housing, which could be compromised in the event of a breakup. Therefore accord between partners can be an important aspect of maintaining housing. African Americans experience higher rates of marital disruption and divorce than Whites, partly due to younger ages at marriage and higher rates of premarital births (Sweeney & Phillips, 2004), thus increasing their risk for

HHI relative to Whites.

Jail Time

Persons with criminal records face additional barriers to housing and employment. It is common for landlords and employers to conduct routine background checks to screen out "undesirable" persons, and applicants with felony convictions can be disqualified from certain jobs or housing. Geller and Franklin (2014), in a longitudinal study using the Fragile Families and Child Wellbeing survey in 20 cities, found mothers' housing insecurity increased by 50% within families where the father had a criminal record. Housing insecurity consisted of the following indicators: rent past due, doubling-up, eviction, frequent moves and homelessness. Studies of persons experiencing homelessness have found that imprisonment, and jail and arrest history were significant risk factors (Bassuk et al., 1997; Phinney et al., 2007; Shinn & Baumohl, 1998). For instance, Caton et al. (2005), in a study of long term shelter users, found that the length of shelter stay was significantly related to having a criminal record, even more so than having a mental health condition. In addition, anyone with a felony on their record is not eligible for public housing and other public benefits, nor is he or she allowed to stay with relatives in public housing, options that could contribute to housing options and stability (Alexander, 2012).

Disproportionate arrests and mandatory minimum sentences lead many African American men to accumulate criminal records, felony convictions, and prison time (Alexander, 2012; Cooke, 2004; Shinn, 2007). Also, higher rates of criminal activity and victimization are experienced by African Americans compared to other groups (Hawkins 2000; Sampson & Lauritsen 1997). Wildeman (2014) found parental incarceration increased child homelessness, particularly among African Americans.

Neighborhood Effects

African Americans are more likely to live in poorer communities regardless of their individual socioeconomic status (Logan & Stults, 2011). Poor and segregated communities are characterized by having poorer housing stock, lower quality employment, and higher rates of crime. People living in these communities may experience housing instability due to unit failures (i.e., infestations), damaged or deteriorating units, unsafe or unlivable units, or people may have to move as a safety strategy to avoid criminal activity or gang violence (DeLuca et al., 2011; Xie & McDowall, 2008). In addition, low quality jobs or lack of access to transportation or childcare can diminish a person's chances for steady employment, and therefore steady wages to pay rent or a mortgage (Huffman & Cohen, 2004; Ihlanfeldt & Sjoquist, 1998).

Sampson and Sharkey (2008), in a study of residential mobility over the course of 7 years in Chicago, found that the majority of Black families lived in Black neighborhoods, and when moving, typically relocated to other, primarily poor, Black neighborhoods regardless of their economic situation. The authors observed that Black families did not have access to better residential communities and point to this pattern as evidence for place stratification. Therefore, community environments are particularly salient for African Americans. African Americans often live in disadvantaged neighborhoods and therefore disproportionately are exposed to adverse environments. In fact, some studies have found that when community-level effects are included, they explain race effects. For instance, Silver (2000), found that among people with mental health disorder, neighborhood disadvantage accounted for the association between being African American and the likelihood of violence.

Very rarely have place effects been evaluated for individual risk of HHI due to a lack of multilevel data including both individual and area information. Two studies, Culhane et al.

(1996) in New York and Rukmana (2010) in Miami-Dade County, Florida, collected the zip codes of last permanent residence from persons entering homeless shelters and observed the locational patterns and characteristics of those locations. They found that persons entering shelters originated from specific residential areas. These areas were characterized by high proportions of African Americans, female-headed households, economic deprivation, poor housing, and lower levels of housing affordability.

Two multilevel studies found significant city-level effects of affordability of rental housing at the metropolitan level on risk of HHI for mothers with young children, controlling for individual risk factors (Curtis et al., 2011; Fertig & Reingold, 2008). These studies had mixed results in terms of whether race and ethnicity were significant for HHI outcomes. Individual and contextual factors were analyzed simultaneously or presented separately and therefore it is not possible to determine if contextual factors influenced individual risk factors such as race or ethnicity for HHI in these studies.

Finally, Carter (2011) used data from the American Housing Survey and linked it to Census data to determine the relationship between racial segregation and quality of housing and overcrowding for Whites compared to Blacks. He found that metropolitan-level segregation, measured by dissimilarity, interacted with African American status to increase the likelihood of inadequate or overcrowded housing for Blacks living in highly segregated communities over the effects of segregation or Black race alone. His study was not able to assess other housing instability measures that are included in my study or capture effects of segregation over time. Segregation and poverty measured at the neighborhood level could also increase the risk for HHI and are likely to contribute to Black-White disparities.

Study Aims

Given the above theorizing and literature review, this study has three specific questions:

1) Do Blacks have higher likelihood of experiencing housing instability relative to Whites?
2) Are Black-White disparities consistent across multiple indicators of housing instability
3) What factors help explain racial differences in housing instability and homelessness?

Methods

Data from the Fragile Families and Child Wellbeing (FFCW) survey were used to assess individual-level Black-White risks of HHI and the underlying mediators at both the individual- and contextual levels. FFCW is an ongoing longitudinal survey that has been collecting data from mothers who had recently given birth and their spouses since 1998. Participants are recruited from 75 hospitals in 20 U.S. cities with populations greater than 200,000. Cities were identified through a stratified random sample. Mothers and fathers are interviewed separately and do not have to stay intact in order to be included in subsequent waves of the survey. FFCW offers a unique opportunity to study Black-White disparities because it focuses on sampling unwed mothers and fathers. It also oversamples low income and minority households and includes several measures of HHI (Reichman, Teitler, Garfinkel, & McLanahan, 2001).

This study focuses on responses from mothers to avoid potential confounding effects of housing instability with fathers if mothers and fathers are in the same household. Therefore gender was controlled in this study by design. The data are restricted from the original sample of 4,898 mothers to include only non-Hispanic Blacks and Whites (n=3,565).

Those with Latino ethnicity are excluded from the sample as Latino ethnicity has been found to be protective for homelessness, a component of housing instability explored in this study, and could therefore confound the effects of Black-White race for experiencing housing instability (Lee et al., 2010). Predictors from the first three waves in 2000, 2001 and 2003 are included to predict housing instability recorded in subsequent waves (2001, 2003, and 2005). Only respondents with housing instability recorded in all subsequent waves are included in the analyses (n = 2,604). Within the restricted sample all missing data are replaced using multivariate imputation using demographic, socioeconomic characteristics, and housing instability from the baseline survey. Roughly 1.5% of the values are imputed and no significant differences were found between imputed and original measures included in the models in this study.

The outcome variables for housing instability are dichotomous indicators of whether the respondent had experienced each of the following during the 12 months preceding follow-up data collection: 1) moved two or more times, 2) eviction, 3) doubled-up with others, and 4) experienced literal homelessness. Following Curtis et al. (2011), this study used a cut off of two moves or more in 1 year to capture housing instability in a study of homelessness. This measure does not indicate whether the move was based on negative or positive circumstances; it accounts only for frequency of moves. Evictions are based on the mother's response to the question "In past 12 months did you get evicted for not paying rent/mortgage?" Responses do not include evictions due to lease violations other than failure to make payments. Doubling-up is measured by responses to the question: "In past 12 months did you move in with people even for a little while because of financial problems?" Finally, homelessness is based on the response to the question "In past 12 months did you stay at a shelter, in an abandoned building, an automobile or any place not

meant for regular housing even for one night?", which is consistent with HUD's definition of literal homelessness. Table 1 presents descriptive statistics separately for Blacks and Whites as well as for the whole sample. Overall, 18% of the sample experienced housing instability over three waves of data collection (between 2000 and 2005). Being doubled-up with others for financial reasons is the most common indicator of housing instability in the sample.

Demographic measures include mother's age in years, whether mother is foreign born, whether mother was married at the time of the survey and the number of minor children in the household. According to this survey displayed in Table 1, Black mothers are significantly younger in this sample, have more children in the household, and are married less often than White mothers. Socioeconomic status is significantly lower for Black mothers than White mothers. Socioeconomic status is measured by household income measured in U.S. dollars at the time of the survey, homeownership, and mother's level of education at baseline. Education is measured at four levels including less than high school (or secondary school), high school or equivalent, some college/university, and bachelor's degree or higher. Black mothers report a mean difference of $33,000 dollars less in average household income than White mothers, are less likely to own a home (by 36%) and are more often to have a high school degree or lower compared White mothers who more often report some college or a college degree.

Health is measured by dichotomous measures of whether the mother has fair or poor health compared to good or excellent health, whether the mother had a health condition that limited the amount or kind of work she could perform, and whether she reported a substance abuse issue that she felt interfered with her life. Social support was measured as dichotomous indicators of whether the mother felt someone she knew could

loan her $1,000 or co-sign a $5,000 loan. Three measures are included in reference to the mother's current partner. Two measures characterize the mother's relationship with her current partner. These include whether the mother had been seriously physically hurt, cut or bruised by current partner and a factor score of positive aspects of relationship with her current partner at the time. The factor score is made up of five measures including whether the mother felt their partner was fair, affectionate, encouraging, and listened and understood them. Negative aspects of relationships besides physical abuse are also explored using a factor score (i.e., whether the partner criticized, isolated, and tried to control the mother), but this score was not significant. The final measure regarding the mother's current partner is whether her partner had ever been in jail.

African American mothers more often report poorer health, health conditions that limit activities, fewer social support resources, and are more often report abuse from a spouse and jail time. These are pathways theorized to contribute to the Black-White disparities in housing instability. Black and White mothers do not differ significantly on other measures.

Neighborhood measures are measured at the tract level, which is an administrative geographical unit used by the U.S. Census and is considered a proxy for neighborhoods. Tract-level characteristics, which are preconstructed by FFCW with links to each survey, were obtained with permission from FFCW administrators for the 2000, 2001 and 2003 waves of the study. Neighborhood-level segregation is measured as a dichotomous variable of whether 50% or more of the residents in the same tract are Black. Neighborhood poverty is measured as a dichotomous variable of whether 25% or more of the residents in the tract are living below the federal poverty line. In terms of neighborhood effects, Black mothers are significantly more likely to report living in a census tract where greater than 50% of the

population is also Black. In addition, Black mothers are more likely than White mothers in the sample to report living in a census tract with greater than 25% of the population living below the federal poverty line.

Analyses

Population average logistic regression is used to explore the effects of neighborhood poverty for housing instability outcomes using Stata version 12. This method is used in order to assess the effect of mother's Black race over time on dichotomous outcomes of HHI while accounting for survey weights. A population average method provides a more conservative estimate of effects because it looks at averages of outcomes across the entire sample as compared to random or fixed effect methods that look at within case associations (Allison, 2009). Unweighted population average models were compared to random effects models and all results were consistent in terms of significance but had smaller effect sizes, which can be explained by the differences in the method.

Data are weighted in order to get representative results. Longitudinal weights were not provided with FFCW restricted data, and it is recommended by FFCW administrators to use weights from a follow-up wave with the most complete data. Therefore weights from 2001, or the first follow-up wave, are used in these analyses. The FFCW survey provided national- and city-based probability weights included in the restricted data. National weights were only provided for 16 of the 20 cities in the survey. I used city probability weights in order to maximize the amount of the sample in my analyses. Consequently these results can be generalized to the 20 cities within which the sample was taken. Cities include Indianapolis, IN; Austin, TX; Boston, MA; Santa Ana, CA; Richmond, VA; Corpus Christi, TX; Toledo, OH; New York, NY; Birmingham, AL, Pittsburgh, PA; Nashville, TN; Norfolk, VA; Jacksonville, FL; San Antonio, TX; Philadelphia, PA; Chicago, IL; Newark,

NJ; Oakland, CA; Detroit, MI; and San Jose, CA. Finally, mothers were asked at each wave whether they had experienced HHI within the last 12 months. Therefore I had to associate each HHI outcome with the previous wave rather than the current wave in which it was collected.

Results

Housing Instability

Tables 2 and 3 explore the effect of mother's Black race for two housing instability outcomes, including doubling-up with others for financial reasons and literal homelessness meaning staying in an emergency shelter or place not meant for habitation. Doubling-up and homelessness are the only measures that had significant race effects of the four measures of housing instability explored in this study.

Model 1 in Table 2 displays the odds of doubling-up with others for financial reasons for Black mothers compared to White mothers alone. According to model 1, where no other covariates are included, Black mothers have 96% greater odds of doubling-up compared to White mothers. Models 2 – 7 include several theorized individual-level measures meant to explain the effect of race found in Model 1, including demographic information, socioeconomic status, health measures, perceived social support from family and friends, domestic violence and quality of relationship with current partner, and, finally, jail time for mother and current partner. The percent change for the effect of mother's race is presented at the bottom of the table for each model.

In Model 2, being foreign born, age (being older as opposed to being younger), and being married were protective for mothers and explain 97% of the Black-White differences for doubling-up. In this model, the race effect is no longer significant at the 0.05 level. These demographic findings are consistent with other studies of HHI for families (Bassuk et al.,

1997; Fertig & Reingold, 2008; Weitzman et al., 1992). In Model 3, I explore the effects of socioeconomic status. Education and homeownership are not only highly significant and protective for doubling-up, but also explain 100% of the race effect. Model 4 indicates that mothers who report fair or poor health are at a significant risk for doubling-up. The Black-White difference remains significant, and health measures only reduce the race effect by 10%. Model 5 shows both measures of social support, including whether family or friends could loan money or co-sign a loan, are protective and significant for doubling-up and explain 100% of the effect of race. Next I explore relationship quality. Model 6 shows domestic violence and having a positive relationship with one's partner are significant for mothers and explain 50% of the race effect, and race is not significant in this model. Positive relationships are protective for mothers, while domestic violence within the current relationship lowers the odds mothers would double-up. This is consistent with some research showing women in abusive relationships will not flee to friends or family, due in part to economic dependence or feelings of attachment to their abuser (Rusbult & Martz, 1995). The last individual pathway I explore is having a criminal background. Model 7 shows that if mothers or their current partners have ever been in jail, they have significantly higher risk for doubling-up; these factors explain 15% of the race effect.

Model 8 combines all significant factors from models 2 to 7. Significant predictors include foreign born, education, homeownership, fair or poor health, the presence of friends or family who could loan money and/or provide housing, physical abuse from current partner, and one's having spent time in jail. When combined, these measures explain 100% of the race effect for doubling-up, and race is not significant in this model. Finally, Model 9 includes the neighborhood effects of living in a predominantly African American tract, the effects of living in an area with at least 25% of the residents falling below the poverty line,

and the significant predictors from Model 8. Neighborhood characteristics are not significant for doubling-up when included in the model with individual-level predictors. The majority of the predictors explored in this study are only measured in waves 2 and 3 of the survey; therefore, only wave 3 appears in the models to account for the effects of time. Time is not significant in these models. This means the effects measured in each model are constant over the follow-up waves analyzed.

Table 3 presents the effects of Black-White race on homelessness, defined as living in a temporary shelter or place not meant for habitation such as a car. Using the same modeling strategy as in Table 2, Mode1 1 shows Black mothers have 44 times greater odds of experiencing homelessness than White mothers. Demographic factors are presented in model 2. Of the risk factors or homelessness, only one's being foreign born is significant, while number of children in the household is marginally significant and protective. The effect of race is reduced by 36%, but it is not fully explained by demographics in this model. In Model 3, I explore socioeconomic factors. Here, education and household income are significant. Education is protective for homelessness, while income increases the risk of experiencing homelessness. Theoretically, income should lower the risk of homelessness. In this case, however, income is only marginally significant in Model 3, and it is not significant in the combined model (Model 8). Homeownership is not included in this model for homelessness, as too few people were homeowners, preventing the model from converging. Overall, socioeconomic status explains 35% of the race effect for homelessness. Next, health factors are presented in Model 4, social support measures are presented in Model 5, and quality of a mother's relationship to their current partner is presented in Model 6. None of these factors help to explain mothers' risk of homelessness, though the social support model does explain 48% of the race effect, while relationship to one's partner explains 21% of the

race effect. Finally, in Model 7, mother's time in jail is significant and increases her risk of homelessness. This effect, however, does not contribute to explaining the race effects for homelessness.

Model 8 includes all significant factors from previous models. In this model, foreign born, number of children in the household and education remain significant. Education has the largest effect when assessing standardized coefficients (not included here). The combined model explains 48% of the Black-White race disparity in homelessness. Finally, Model 9 shows that living in a census tract with 50% or more Black co-residents and living in a census tract with 25% or more poor co-residents are significantly associated with homelessness, net of significant individual factors. Percent Black at the tract level is protective, while percent poor is a risk factor for homelessness. Tract- and individual-level factors, combined in Model 9, explain 26% of the effect of Black-White race for mothers. This percentage is lower than previous models where the neighborhood effects are not included. The effects of Black communities are protective and therefore do not contribute to explaining why Black mothers have a higher risk of homelessness, leading to a lower percentage of the race effect that is explained.

Discussion and Conclusion

This study contributes to the HHI literature by exploring the main and mediating effects of race on multiple measures of housing instability, using a longitudinal sample of vulnerable families, and exploring individual- and neighborhood-level pathways to explain race disparities. Four main points are derived from this study. First, I found significant differences in risk for doubling-up and homelessness between Black and White mothers, but no differences for frequent moves or evictions. Second, Black mothers are clearly disadvantaged compared to White mothers for doubling-up and homelessness. Black

mothers are 40% more likely to double-up for economic reasons. By far the largest disadvantage is with homelessness, where Black mothers are six times more likely to experience literal homelessness than White mothers. While Black and White mothers have similar odds of moving or losing their housing, Black mothers are less likely to regain independent housing following a move or eviction.

Third, a number of individual-level mediators are detected; they help to explain some portion of the higher odds for doubling-up and homelessness for Black mothers relative to White mothers. For doubling-up, individual-level pathways 'explain away' the race effect. In addition, all theorized individual-level pathways contribute to the race effect for doubling-up. For homelessness, only demographic and socioeconomic characteristics, particularly education, and jail time contributed to explaining 32% of the race effects for mothers at the individual level.

Finally, my study explores neighborhood-level effects not yet tested for HHI in the literature. I find that neighborhood poverty and segregation were significant for mothers net of individual characteristics for experiencing literal homelessness but not for doubling-up. Mothers living in communities a majority of Black residents had a lower risk for homelessness. Many more barriers to housing have been documented for Blacks in the U.S. (Pager & Shepherd, 2008; Turner, Ross, Galster, & Yinger, 2002). For African Americans living in Black communities, however, there may be more opportunities to find housing to avoid homelessness than neighborhoods where African Americans are the racial minorities. Mothers living in a poor community had greater risk of experiencing homelessness, which did contribute to the effects of race for mothers.

There are some inconsistencies in my research relative to other findings in the HHI literature. First, domestic violence, while significant, in this case predicted lower levels of

doubling-up, which is not consistent with my theory that domestic violence would increase the risk of doubling-up for Black mothers. The way the question is worded, "In past 12 months, did you move in with people even for a little while because of financial problems?", could underestimate the number of mothers doubling-up if it was for safety reasons and not financial problems. There could also be explanations for lower rates of doubling-up. For instance mothers may stay with an abusive partner for economic reasons (Rhodes & McKenzie, 1998). Another possible explanation is families experiencing domestic violence may be less likely to double-up with others in order to hide their situation, protect others from their violent partner, or thinking their violent partner would think to search for them at family or friends residences if they were fleeing from domestic violence. Also they could have been socially isolated from others by their partner.

Second, according to other studies, Hispanic or Latino ethnicity and being an immigrant are protective for homelessness (Bassuk et al., 1997; Lee et al., 2010; Shinn & Baumohl, 1998). I excluded all Hispanic or Latino persons from my analyses to focus on Black-White disparities. However, I do include a measure of being foreign born, which is significantly associated with higher risk for homelessness but lower risk for doubling-up. The protective effect of being an immigrant could be reversed for homelessness by focusing on groups from non-Latin origins with perhaps more vulnerable immigration experiences for housing.

Finally, having higher income is not usually associated with increased risk of homelessness. This result could be a function of having a small number of people experiencing homelessness in this survey or based the weights used in the analysis. Another consideration is that income may be too high to qualify for public benefits but not enough to afford housing. However, I tested receipt of public benefits and found no association.

Several limitations should be noted. First, very few Whites experienced literal homelessness in the FFCW survey. Therefore, pathways explored for homelessness largely reflect risk factors for Black mothers. Second, my study is only based on mothers and does not explore or explain the race disparities that exist between adults without children. And finally, results can only be generalized to the 20 cities where the FFCW data are collected based on the weights used in my analyses. Future studies should attempt to use similar data that capture more instances of literal homelessness in order to compare racial and ethnic experiences, including how contextual factors can contribute to individual risk. African Americans are disproportionately represented among those persons experiencing homelessness; understanding their experiences will help to shape better housing policies to reduce homelessness and housing instability.

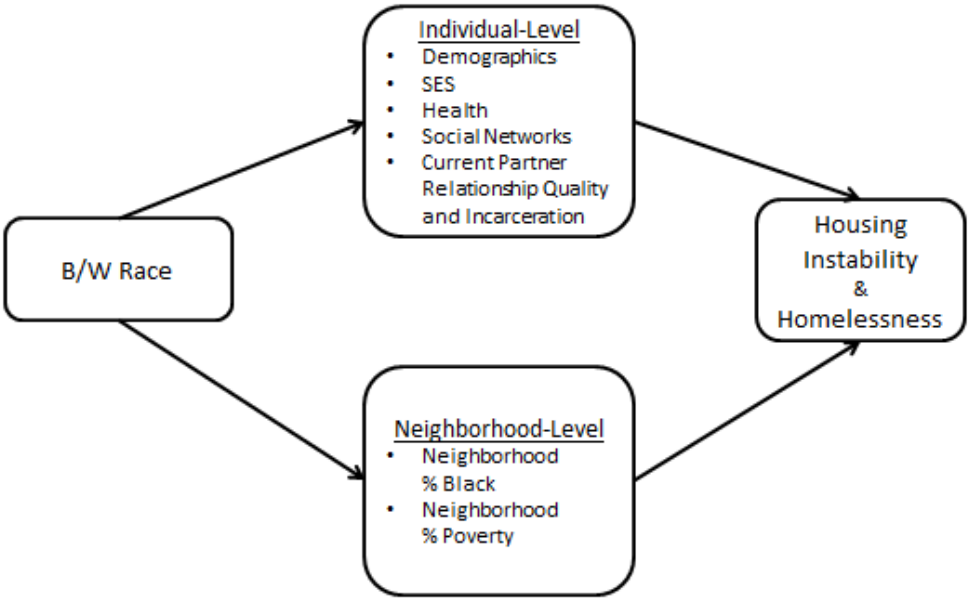

Figure 1: Theoretical Pathways Describing Racial Disparities in Housing Instability and Homelessness

Table 1: Unweighted Descriptive Statistics

Measures	White	Black	Total
Outcomes			
Unstably Housed[a]	14.39%	19.58%	17.97%
Two plus Moves	2.73%	1.89%	2.15%
Evicted	3.97%	3.89%	3.92%
Doubled-Up	12.41%	16.69%*	15.36%
Homeless	0.99%	5.17%***	3.88%
Individual-level Predictors			
Foreign Born	3.60%	3.62%	3.61%
Mother's Age	27.2 (6.47)	24.4 (5.73)***	25.3 (6.11)
Mother's Married	62.78%	22.19%***	34.75%
Number of Children in the Household	2.33 (1.25)	2.48 (1.31)***	2.0 (1.06)
Education			
< High School	16.50%	32.04%***	27.23%
High School or Equiv.	25.31%	36.82%***	33.26%
Some College	28.41%	25.70%	26.54%
College Degree or Graduate School	29.78%	5.45%***	12.98%
Household Income	$58,470 (4,020)	$25,467 (1,825)***	$35,682 (1,372)
Owns Home	50.25%	14.18%***	25.35%
Fair or Poor Health	14.76%	20.63%***	18.82%
Substance Abuse Interferes with Life	1.12%	1.28%	1.23%
Health Condition Limits Activities	9.55%	13.63%*	12.37%
Family or Friends Could Loan $1,000	81.64%	56.4%***	64.21%
Family or Friends Could Cosign Loan for $5,000	77.05%	43.16%***	53.65%
Experienced Violence from Current Partner	7.94%	11.74%**	10.56%
Positive Relationship with Current Partner[b]	0.32 (0.036)	-0.19 (0.045)***	-0.04 (0.035)
Current Partner Ever in Jail	14.64%	21.36%*	19.28%
Mother Ever in Jail	0.37%	1.84%**	1.38%
Tract-level Predictors			
Tract Over 50% Black	5.09%	78.81%***	55.99%
Tract Over 25% Poor	7.69%	48.28%***	35.71%
TOTAL SAMPLE SIZE	806	1,798	2,604

Note: Between Person Percent reported for dichotomous variables and Mean (*S.D.*) reported for continuous variables
*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

[a]Unstable housing is a dummy variable combining whether the mother was evicted, doubled-up, moved two or more times or was literally homeless in the last 12 months

[b]Positive relationship is a factor score of 5 items including whether the mother feels their partner is fair, affectionate, encouraging, and listens and understands them.

Table 2: GEE Population Estimated Model of Individual Factors on Doubling-Up
Reported as Odds Ratios: 2 Waves 2001 - 2003

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mother Is Black	1.964*	1.030	0.729	1.870*	0.982	1.480	1.818*	0.634	0.631
	(0.527)	(0.366)	(0.237)	(0.501)	(0.260)	(0.514)	(0.491)	(0.193)	(0.198)
Foreign Born		0.0272***						0.0236***	0.0235***
		(0.0210)						(0.0186)	(0.0185)
Mother's Age		0.948*						0.982	0.983
		(0.0228)						(0.0214)	(0.0216)
Married		0.415+						1.012	1.007
		(0.200)						(0.396)	(0.386)
Number of Children in the Household		0.938							
		(0.0647)							
Education			0.680**					0.767*	0.753*
			(0.0841)					(0.0870)	(0.0872)
Household Income			1.000						
			(6.24e-06)						
Owns Home			0.167***					0.150***	0.145***
			(0.0657)					(0.0643)	(0.0618)
Fair or Poor Health				1.991*				1.705*	1.699*
				(0.595)				(0.457)	(0.450)
Substance Abuse Interferes with Life				1.790					
				(1.357)					
Health Condition Limits Activities				1.240					
				(0.379)					
Family or Friends Could Loan $1,000					0.365***			0.552**	0.542**
					(0.0661)			(0.108)	(0.103)
Family or Friends Could Cosign Loan for $5,000					0.571+			0.781	0.786
					(0.180)			(0.237)	(0.235)

Table 2 (Continued):

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Experienced Violence from Current Partner						0.600+		0.496*	0.489*
						(0.164)		(0.145)	(0.143)
Positive Relationship with Current Partner						0.672*		0.807	0.809
						(0.105)		(0.122)	(0.121)
Current Partner Ever in Jail							1.767*	1.365	1.346
							(0.446)	(0.350)	(0.337)
Mother Ever in Jail							5.600*	4.062*	4.156*
							(4.725)	(2.826)	(2.930)
Tract Over 50% Black									1.099
									(0.258)
Tract Over 25% Poor									0.793
									(0.172)
Wave 3 (2003)	1.172	1.178	1.201	1.185	1.132	1.125	1.134	1.136	1.133
	(0.228)	(0.241)	(0.248)	(0.234)	(0.233)	(0.214)	(0.223)	(0.235)	(0.232)
Constant	0.0404***	0.418+	0.301***	0.0364***	0.126***	0.0506***	0.0395***	0.428+	0.463+
	(0.00833)	(0.199)	(0.0932)	(0.00774)	(0.0343)	(0.0118)	(0.00808)	(0.206)	(0.211)
(% Race Effect Explained)	-	97%	100%	10%	100%	50%	15%	100%	100%
Observations	5,198	5,198	5,198	5,198	5,198	5,198	5,198	5,198	5,198
Number of mothers in the sample	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604

Robust *S.E.* in parentheses

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Note: All predictors are weighted

Table 3: GEE Population Estimated Model of Individual Factors on Homelessness
Reported as Odds Ratios: 2 Waves 2001 - 2003

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mother Is Black	43.84***	27.88***	28.66***	41.62***	22.72***	34.71***	44.35***	22.74***	32.66***
	(24.39)	(21.10)	(19.32)	(23.52)	(13.20)	(19.60)	(25.20)	(13.80)	(20.10)
Foreign Born		4.878**						4.736*	4.862*
		(2.658)						(3.621)	(3.206)
Mother's Age		0.950							
		(0.0385)							
Married		0.719							
		(0.529)							
Number of Children in the Household		0.735+						0.654*	0.664**
		(0.133)						(0.113)	(0.102)
Education			0.488***					0.419***	0.364***
			(0.0943)					(0.0850)	(0.0868)
Household Income			1.000+					1.000	1.000
			(1.93e-06)					(3.86e-06)	(7.58e-06)
Fair or Poor Health				2.119					
				(1.286)					
Health Condition Limits Activities				0.769					
				(0.458)					
Family or Friends Could Loan $1,000					0.315				
					(0.286)				
Family or Friends Could Cosign Loan for $5,000					0.607				
					(0.441)				

Table 3 (Continued):

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Experienced Violence from Current Partner						2.201			
						(1.308)			
Positive Relationship with Current Partner						0.765			
						(0.135)			
Current Partner Ever in Jail							0.680		
							(0.350)		
Mother Ever in Jail							6.809*	6.441+	7.821*
							(6.513)	(6.578)	(8.023)
Tract Over 50% Black									0.201**
									(0.101)
Tract Over 25% Poor									2.615*
									(1.024)
Wave 3 (2003)	1.519	1.504	1.521	1.581	1.526	1.575	1.518	1.494	1.610
	(0.517)	(0.544)	(0.529)	(0.578)	(0.545)	(0.526)	(0.520)	(0.559)	(0.657)
Constant	0.00109***	0.00900***	0.00568***	0.00101***	0.00324***	0.00115***	0.00109***	0.0170***	0.0186***
	(0.000558)	(0.00958)	(0.00401)	(0.000549)	(0.00229)	(0.000574)	(0.000562)	(0.0115)	(0.0129)
(% Race Effect Explained)	-	36%	35%	5%	48%	21%	-1%	48%	26%
Observations	5,198	5,198	5,198	5,198	5,198	5,198	5,198	5,198	5,198
Number of mothers in the sample	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604	2,604

Robust *S.E.* in parentheses

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Note: All predictors are weighted; home ownership and substance abuse interfering in life were omitted due to lack of observations for those experiencing homelessness

CHAPTER 3

NEIGHBORHOOD SEGREGATION AND POVERTY ON HOUSING INSTABILITY AND HOMELESSNESS: CONTEXTUAL PATHWAYS

Introduction

Where someone lives can impact his or her likelihood of experiencing housing instability. Essentially, one's residential environment can shape his or her life chances and social environmental exposures, which may in turn affect their housing experiences. Spatial inequalities in important neighborhood social and physical features are evident throughout the United States (Bishaw, 2014). Individuals' or families' residential mobility, either by choice or constraint, can be triggered by neighborhood contexts (Lee, Oropesa, & Kanan, 1994).

Specifically, socioeconomically deprived and racially segregated neighborhoods are often associated with poor housing, high crime rates, minimal employment opportunities and poor community resources (Massey & Denton, 1993; Sampson, Raudenbush, & Earls, 1997; Wilson, 1996). Presumably, these hazardous contextual factors can put families at increased risk of experiencing housing instability due to chronic life hardships such as poverty or life shocks such as death in the family, divorce, losing a job, and health crisis, among others.

Very rarely have place effects been evaluated for individual risk of HHI due to limited individual-level data across cities. To date, no studies have looked at the impact of neighborhood factors for measures of HHI. This study will explore the direct and indirect

effects of Black segregation and concentrated poverty at the neighborhood level for several measures of housing instability and homelessness (hereafter referred to as HHI) in the U.S. addressing a gap in the literature for understanding neighborhood effects for housing stability using data from the Fragile
Families and Child Wellbeing (FFCW) survey.

Theory and Background

There is abundant literature examining how racial segregation and concentrated poverty are associated with a wide range of health and wellbeing outcomes. However, little evidence is available as to how these contexts may be linked to HHI. The following section discusses the ways in which poor and racially segregated communities could contribute to HHI both directly and indirectly.

Direct Effects of Neighborhood Segregation and Concentrated Poverty

Racial segregation refers to the spatial or residential concentration of single races in particular locations relative to other racial and ethnic groups. Racial segregation is a multifaceted concept and is most often measured to capture several unique dimensions derived by Massey and Denton (1988). Racial segregation has been explored at multiple levels, most commonly at the metropolitan level. At the neighborhood level, segregation can be measured as the percent of a particular race in a census tract (Moiduddin & Massey, 2006).

Segregated neighborhoods can lack important resources needed for stable housing, and residents in these neighborhoods can face high barriers when trying to access these resources outside the community. For instance, according to spatial mismatch theory, a mismatch occurs when jobs are not located near areas where minorities reside or require

different skills, making it more difficult for residents in segregated areas to find good employment or commute easily to a job (Fernandez & Su, 2004). In addition to segregation, concentrated poverty—or the geographic clustering of people living below the federal poverty level—can also impact individuals regardless of their individual socioeconomic status (Waitzman & Smith, 1998).

Racial segregation and concentrated poverty can impact housing stability in a variety of ways. People living in these communities may experience housing instability due to unit failures (i.e., infestations), damage to the unit, which makes them unsafe or unlivable, or as a strategy to avoid criminal activity, which is disproportionately located in poor and segregated communities (DeLuca et al., 2011; Xie & McDowall, 2008). Also, low-quality jobs or a lack of access to transportation or childcare can diminish a person's chances for steady employment, and therefore steady wages to pay rent or a mortgage (Carr & Kutty, 2010; Huffman & Cohen, 2004; Ihlanfeldt & Sjoquist, 1998). Segregation, namely spatial concentration of co-ethnics, can also have positive effects, creating a buffer for those families needing housing support. For instance, Smaje (1995) found protective effects of racial and ethnic concentration for health outcomes and hypothesized these findings were due to increased community integration, buffered discrimination, and increased political empowerment for persons living with co-ethnic groups.

As mentioned earlier, there is little empirical evidence to explain the association between neighborhood segregation and/or concentrated poverty and HHI, due to a lack of individual-level data across cities or neighborhoods. Two studies focused on homeless populations and assessed the characteristics of the communities in which homeless persons resided before entering emergency shelters to see if there were any spatial and contextual patterns. These studies are based on convenience sampling from administrative shelter

records in specific cities. First, Culhane et al. (1996), in a study of families staying in shelters in New York City and Philadelphia, found that a significant proportion reported coming from areas of the city characterized by higher rates of poverty and higher concentrations of African Americans. Rukmana (2010) found similar area characteristics for households entering emergency shelters in Miami-Dade County, Florida. This study found a difference between area characteristics for men versus women entering the shelter. Women most often came from areas where there was a lack of affordable housing, whereas men came from areas with high rates of poverty and high concentrations of African Americans and Hispanics. While Rukmana's study doesn't directly point to risk of homelessness for female-headed households, which are the focus of my study, it does point to the importance of place for HHI. These studies relied on aggregate responses from people entering shelters who reported their prior zip code or address. As a result, these data are not high quality and are not linked to other individual characteristics, making it difficult to determine the contribution of place-based factors for individuals' risk of homelessness.

Three multilevel studies have identified place-based effects for HHI, to my knowledge. Curtis et al. (2011), using FFCW data, looked at four measures of HHI similar to this study, including frequent moves, doubling-up, evictions, and homelessness for mothers with young children. They explored whether metropolitan-level factors including fair market rents, availability of housing subsidies, and state-level welfare generosity were linked to measures of HHI. They found affordable and subsidized housing mattered for homelessness. They also found that an interaction between a combined measure of HHI, the focal child's general health, and state-level welfare was significant only for homelessness.

Fertig and Reingold (2008), also using FFCW for mothers with young children, conducted a study on individual- and city-level determinants for homelessness and doubling-

up for mothers compared to mothers living below 50% of the poverty line. They assessed whether the unemployment rate, poverty rate, fair market rent, and percent of renters able to afford rent, among other measures, impacted individual risk controlling for several demographic, socioeconomic, social, and behavioral attributes of mothers. In their study, only the percent of renters able to afford rent in the area was significant and protective for homelessness 1 year after baseline. Several community factors were significant 3 years after baseline, including percent of renters able to afford rent and unemployment. The poverty rate was not significant for either wave or HHI outcome. For the aforementioned multilevel studies, individual and contextual factors were analyzed simultaneously, and therefore it is not possible to determine if contextual factors influenced individual risk factors for HHI, obscuring any potential pathways where place effects could be operating through individual-level factors. Also, these studies analyzed outcomes at a single point in time rather than using longitudinal methods to understand the impact of place over time, which could distort the influence of place for HHI.

Finally, Carter (2011), using the American Housing Survey, focused on metropolitan-level racial segregation (measured by dissimilarity) and found it interacted with an individual's race to influence their risk for living in inadequate or overcrowded housing. Inadequate housing is defined as housing lacking functional, safe, or adequate plumbing or electrical facilities. Both inadequate housing and overcrowded housing are considered by the U.S. Department of Education as homeless circumstances. Carter's study was not able to assess other housing instability measures or capture effects of segregation over time for living environment.

Overall, these studies had similar findings. The two multilevel studies using FFCW data found significant city-level effects for individual risk of HHI for mothers with young

children, and the study using the American Housing Survey found metropolitan-level segregation was significant for inadequate housing. While these studies focused on city or MSA-level factors and not neighborhood environments, they point to the salience of place for HHI over individual level circumstances.

Indirect Effects of Neighborhood Segregation and Concentrated Poverty

Indirectly, segregated and poor neighborhoods are associated with individual-level risk factors for HHI. This paper focuses on four main pathways to explain how neighborhood segregation and poverty indirectly influence HHI. These pathways include social support, health, domestic violence, positive relationships, and prior jail time. I selected these pathways based on their relationships to place effects as well as risk they pose to housing instability and homelessness.

Social Support

Social networks can provide instrumental support, emotional support, and access to scarce resources, all of which comprise social capital (Colman 1988). Social support is crucial for families at risk of becoming unstably housed or even homeless. If a family does not have family members, friends, colleagues, or neighbors willing or able to provide support, the result can be greater reliance on public supports, many of which are often scarce and difficult to maintain in times of crisis. For instance, studies comparing poor families to families who experienced homelessness found that homeless families had either weaker social ties or their social networks were more likely to also be poor (Bassuk et al., 1996; Shinn et al., 1991).

Neighborhood environments can foster social connections and diversify opportunities for employment as well as access to information and other resources available

through social networks. Neighborhoods lacking socioeconomic resources or diversity are less able to produce helpful social connections and opportunities (Wacquant & Wilson, 1989). Racially segregated communities for racial minorities are often lacking socioeconomic resources compared to segregated White communities, are often isolated from network opportunities for employment, and are often lacking sufficient role models (de Souza Briggs, 2003; Wilson, 1987). However, Small (2007), in a study of several neighborhoods, examined the racial differences in social networks and found that poverty—not racial segregation—was related to weaker social ties. Indeed, as mentioned earlier, segregated communities may have greater social cohesion and support than racially mixed neighborhoods (Smaje, 1995). Poor neighborhoods lack the presence of safe or public places, recreational opportunities, and have higher residential instability, which hinders relationship building among residents (Curley, 2010; Rankin & Quane, 2000). Even with strong relationships, however, the resources contained within social networks tend to be diminished in poorer communities (Browning & Cagney, 2002). Therefore, the capacity of social networks to provide a safety net to members at risk of HHI is constrained in poorer and racially segregated communities, and could mediate these neighborhood effects for HHI.

Health

A good deal of evidence has established the link between racial segregation, living in poor communities, and poorer health (e.g., Pickett & Pearl, 2001; Takeuchi et al., 2010; Wen, Browning, & Cagney, 2003). Poor health can contribute to risk of HHI by creating barriers to steady employment, additional reliance on social networks, and additional expenditures on healthcare. These factors could be exacerbated in poor or segregated communities if there are fewer community resources, fewer persons available for support, or fewer employment or housing opportunities capable of accommodating people experiencing poor health.

Therefore, poor health could act as a pathway linking the effects of segregation and poverty to HHI.

Overall, health research on segregation has focused on explaining the racial disparity in mortality between Blacks and Whites in the U.S. Ecological studies using measures of segregation at the metropolitan level and aggregate mortality rates have found that higher levels of segregation account for elevated rates of mortality among African Americans (Collins & Williams, 1999; Hart et al., 1998). These studies controlled for sex, aggregate levels of poverty, and education or occupation, but were not able to locate Blacks in particular areas within the metropolitan area. Studies focusing *within* metropolitan areas mostly assess concentration of racial and ethnic groups in particular census tracts. For mortality, these studies have found diverse outcomes where segregation of racial and ethnic groups have both deleterious effects for Black mortality (Guest et al., 1998; Jackson et al., 2000; LeClere et al., 1997) and also protective effects for concentration, lowering Black mortality rates (Inagami et al., 2006; Smaje, 1995).

Multilevel studies have linked neighborhood poverty and segregation to individual health. For instance, Moiduddin and Massey (2006) found segregated Black neighborhoods, and to a lesser extent, poor neighborhoods, increased the likelihood of low birth weight both directly and through risky behaviors including drug or alcohol use during pregnancy. Also, Diez-Roux et al. (1997) found poorer neighborhoods, measured by aggregate measures of income, education, and occupation, increased the risk for coronary heart disease. Neighborhood-level deprivation and racial isolation have also been associated with individuals' poorer mental health and substance abuse (Schulz et al., 2000; Williams & Latkin, 2007). Therefore, place-based factors of segregation and poverty could impact health outcomes for families and influence their risk of experiencing HHI.

Domestic Violence

Domestic violence in general and intimate partner violence (IPV) in particular have been found to be significant predictors of HHI (Fertig & Reingold, 2008; Pavao et al., 2007; Phinney et al., 2007; Shinn et al., 1998). Many times, women who are fleeing their homes for safety reasons or families are evicted from rental housing by landlords if there have been too many calls to the police for domestic violence. There are many domestic violence shelters that only serve women and children who are seeking a safe place. Often times staying with family or friends is not an option (or at least not a long-term option) for families fleeing domestic violence if the aggressor knows where these people live.

Instances of IPV have been related to neighborhood deprivation (Benson, Fox, DeMaris, & Van Wyk, 2003; Van Wyk, Benson, Fox, & DeMaris, 2003). Economic strain, which is more common in poorer areas, can heighten stress and frustration, leading to increased levels of violence and poorer quality relationships. In addition, socioeconomically deprived neighborhoods have a lower capacity for collective social control, and when combined with the higher rates of residential turnover, these factors can create an environment where instances of violence occur more often.

Jail Time

Having a criminal record can create barriers to employment and housing, increasing the likelihood of HHI. Two studies of family homelessness found homeless mothers had significantly higher rates of jail time than poor mothers, though this factor was not significant for homelessness in multivariate analyses that included demographic, socioeconomic, and risk factors related to homelessness (Bassuk et al., 1997; Shinn et al., 1998). Incarceration disrupts employment and the receipt of public benefits, resulting in economic insecurity. Landlords and employers routinely conduct background checks that

can reveal whether someone has had a felony and other more minor offenses. Incarceration, therefore, not only puts housing at risk, but also it makes it more difficult for families to regain housing after having experienced HHI.

Crime and incarceration rates are disproportionately higher in poor and segregated communities (Krivo & Peterson, 1996). This pattern is due to two distinct but related factors: Higher levels of economic deprivation lead to higher levels of illegal activity, which in turn leads to increased police attention. As a consequence of higher rates of crime, residents are less likely to spend time outside of their dwelling and socialize with neighbors, constraining the development of the type of social networks that could foster collective action on behalf of the community and prevent additional crime (DeLuca et al., 2011). Higher rates of incarceration also accompany higher
rates of crime. Furthermore, racial profiling can exist at the community level when neighborhoods are more frequently patrolled due to their reputation and racial composition (Brinson, 1994).

Study Aims

Given the above theorizing and literature review, this study has three specific questions:

1) Do neighborhood poverty and racial segregation impact HHI independent of individual-level characteristics of mothers in the FFCW?
2) Does Black-White race moderate place effects (if observed) for HHI?
3) Do individual-level factors such as social support, health, domestic violence, and incarceration play a mediating role in the two place effects (i.e., poverty and segregation)?

Methods

Data used for this study, including descriptions of measures used, have been described in Chapter 2 of this dissertation. My analytical approach is also discussed in Chapter 2.

Results

Descriptive Statistics

Differences in housing instability, its subcomponents, and covariates are presented and discussed in Chapter 2, Table 1 by Black and White race.

Neighborhood Effects, Race, and Housing Instability

Tables 4 – 7 test aims one and two by exploring the effects of neighborhood poverty and neighborhood segregation on four measures of housing instability including frequent moves, evictions, doubling-up and homelessness, net of individual-level controls.

Table 4 displays a population-averaged logistic analysis of neighborhood effects on the odds of mothers moving frequently, operationalized as moving two or more times per year on average. Models 1 – 4 test for the presence neighborhood effects with individual-level controls according to Aim 1. Model 1 displays only individual-level controls, including whether the mother is Black, the mother's age, whether she is foreign born, married, the number of children in the household, mother's education at baseline, household income, and whether the mother owns her house. Results show mothers moving frequently are predominantly White, foreign born, younger and single.

Next, I look at neighborhood-level characteristics in addition to individual-level controls. Model 2 displays the odds of mothers living in neighborhoods where more than half of co-residents are Black. Neighborhood segregation in this model is not significant for frequent moves. In model 3, I look at whether living in a census tract with more than 25%

of the co-residents living in poverty. Here, concentrated neighborhood poverty is significant and decreases the odds of moving frequently by 82% ($p < 0.001$). One would expect that living in a poorer community would lead to unstable housing, including moving more frequently. These results, however, suggest that concentrated neighborhood poverty is protective for frequent moves. One possible explanation is that affordable and subsidized housing are disproportionately located in poorer areas (Kucheva, 2011). These areas are less likely to see increases in rent and therefore could decrease the probability of moving.

According to Aim 2, I explore the potential moderating effect of mother's race for concentrated neighborhood poverty and neighborhood segregation for frequent moves in models 5 and 6. In model 5, the interaction between Black race and majority Black neighborhood is significant, while the main effects of race and neighborhood segregation are not significant, showing a crossover effect between binary measures where neighborhood segregation only matters by Black or White race for frequent moves. In this model, the odds of experiencing frequent moves for Black mothers are higher than White mothers in nonsegregated neighborhoods (odds ratio = 3.236). In segregated communities, the odds of moving frequently are 50% lower for Black mothers than White mothers, suggesting Black mothers may have additional supports or fewer housing shocks in segregated areas. This interaction effect is maintained in the final model, model 7, where all neighborhood main effects and interactions are included. There is no significant interaction between Black mothers and living in areas of concentrated poverty presented in model 6, and the main effect of concentrated neighborhood poverty is no longer significant when its interaction with race is included in the model as shown in models 6 and 7.

Following the same modeling approach, Table 5 displays the odds of mothers reporting having been evicted. Among the control measures in model 1, being foreign-born

and more highly educated are significant and protective for mothers. Assessing Aim 1, I find no significant neighborhood measures for evictions in models 2-4. According to Aim 2, there are no significant interactions between neighborhood effects and mother's race in models 5-6. Only in models 5 and 7 is a place effect, specifically majority Black neighborhoods, significant for evictions. In these models, the main effect for majority Black neighborhood is significant and associated with increased odds of eviction for mothers. The main effect for majority Black neighborhoods is only significant in these models when an interaction effect with mother's race is included, suggesting White mothers living in a majority Black neighborhood have higher odds of experiencing an eviction. However, the interaction effect is not significant.

Table 6 displays the odds of mothers' doubling-up with others for financial reasons. Control measures indicate that foreign-born mothers, mothers with more children in the household, mothers with higher education, and mothers who are homeowners are all less likely to report doubling-up. Assessing Aim 1, I find no measures of neighborhood composition that are significant for doubling-up, suggesting that doubling-up is a more widespread occurrence and not exclusive to areas of concentrated poverty or majority Black neighborhoods. For Aim 2, I also find no significant interaction effects between neighborhood measures and mother's race.

Finally, Table 7 displays the odds of mothers' reporting having experienced literal homelessness. Model 1 shows significant risk for Black mothers and protective effects for mothers with more children and with more education. According to Aim 1, both neighborhood concentrated poverty and segregation are significant for homelessness. Model 2 shows living in a majority Black neighborhood is significant and protective for mothers and lowers the odds of homelessness by 77% ($p < 0.01$). The effect of being a Black mother

in this model increases from 36 in the baseline model to 73 times the odds of White mothers for becoming homeless. Model 3 shows living in a neighborhood with a higher concentration of poverty has the opposite effect. Living in a poor community is associated with higher odds of experiencing homelessness (odds ratio = 2.539; $p < 0.10$). Neighborhood effects remain roughly the same when included in the same model, as shown in Model 4.

According to Aim 2 for homelessness, model 5 shows Black mothers' odds of experiencing homelessness are 98 times that of White mothers in nonsegregated communities and 38% lower than White mothers in segregated communities ($p<0.001$). There is no interaction effect for mother's race and living in concentrated poor neighborhoods, shown in Model 6. Model 7 includes both the interactions of race and poverty and race and Black neighborhoods, and results are consistent with the effects from model 5.

Neighborhood Mediating Effects

According to Aim 3, tables 8 - 10 explore whether social support, health, domestic violence, relationship quality, and jail time mediate the relationship between neighborhood factors and HHI. Tables 8 - 10 show the indirect effects of all theorized mediators only for direct relationships that were significant in Tables 4 - 7.

Table 8 shows the total, direct and indirect effects of theorized mediators on the relationship between neighborhood concentrated poverty and frequent moves. Directly, mothers living in a concentrated poor neighborhood are less likely to experience frequent moves. Only three measures significantly or somewhat significantly mediate this relationship: having family or friends who can loan the mother $1,000, having a positive relationship with one's partner, and having spent time in jail.

Table 9 shows the total, direct and indirect effects of theorized mediators on the relationship between neighborhood segregation and homelessness. In terms of the direct effect, neighborhood segregation is associated with lower odds of experiencing homelessness. Here again, only three measures (having family or friends who can loan $1,000 or co-sign a $5,000 loan and having experienced violence from their partner) are significant or marginally significant and mediate the relationship between neighborhood segregation and homelessness.

Finally, Table 10 shows the total, direct and indirect effects of theorized mediators on the relationship between neighborhood-concentrated poverty and homelessness. Concentrated neighborhood poverty has a direct effect that increases the odds of homelessness. Here, three measures are significant mediators in this relationship. First, mothers living in nonconcentrated poor neighborhoods would have a 1.28 times higher odds of experiencing homelessness if they report not having friends or family who could loan them $1,000 compared to mothers living in concentrated poor neighborhoods ($p < 0.001$). Mothers living in nonconcentrated poor neighborhoods would have 11% higher odds of experiencing homelessness if they report not having friends or family who could co-sign a $5,000 loan compared to mothers living in concentrated poor neighborhoods ($p < 0.05$). Finally, mothers living in nonconcentrated poor neighborhoods would have 1.8% higher odds of experiencing homelessness if they had experienced a limiting health condition compared to mothers living in concentrated poor neighborhoods ($p < 0.10$).

Discussion and Conclusion

This study contributes to the literature by providing evidence regarding the effect of neighborhood concentrated poverty and segregation on homelessness and housing instability (HHI). Several main points can be derived from this study. First, both concentrated poverty

and segregation have direct and independent effects on HHI. Specifically, concentrated poverty is associated with increased risk of homelessness but a decreased likelihood of frequent moves. Neighborhood segregation is only directly related to homelessness and is protective. This effect is present while controlling for concentrated poverty. Overall, there were no direct neighborhood effects for doubling-up. This finding could be due to the ubiquity of doubling-up as a household strategy. Regarding the negative association between neighborhood concentrated poverty and frequent moves, this result was not expected. One possible explanation could be that limited housing options such as moving to another rental or doubling-up may not be available to mothers, leaving homelessness as the only option in areas with concentrated poverty. In addition, subsidized housing vouchers tend to be used disproportionately in areas with higher rates of poverty. Households receiving this type of housing subsidy must locate a rental property on their own and often end up in poorer neighborhoods because such areas have more affordable units and landlords who accept housing vouchers. Moreover, voucher recipients' social connections tend to have a narrower scope in terms of neighborhood or property recommendations (DeLuca et al., 2011). Focusing on the effect of segregated communities associated with lower risk for homelessness, it is possible that Black communities, without the effects of poverty, can organize around churches, neighborhoods, and schools to create a safety net for those who are at risk of experiencing homelessness.

The second main finding is that experiences differ for Black versus White mothers when living in poorer or segregated neighborhoods. Black segregated neighborhoods are protective for Black mothers in terms of frequent moves and homelessness. For White mothers, living in a majority Black community increases their risk for experiencing homelessness and evictions. If White mothers are not integrated into the Black community,

they could be missing out on the community safety net that is protective for Black mothers.

Finally, neighborhood-level concentrated poverty and segregation are theorized to operate indirectly through social support, relationship quality, and mothers' jail time to influence frequent moves and homelessness. The proposed pathways, while significant in some instances, do not explain neighborhood effects. This result could indicate direct effects or the omission of other potential pathways at the individual level. Future research can elucidate these mechanisms.

Expanding on the limitations reported in the previous chapter pertaining to FFCW data, this study has several limitations. First, there is a very high correlation between Black mothers and living in tracts with higher than 50% of residents who are Black, making it difficult to parse out the relative effects of these two factors. Second, very few mothers experienced homelessness, meaning that a few measures had to be removed from the analyses in order to generate estimates. Third, this study does not account for mobility patterns prior to the period in question, though recent births and age are controlled for and often predict residential instability (Fertig & Reingold, 2008). Finally, only contextual measures of neighborhood are assessed. Subjective measures of neighborhood were not included in the FFCW survey for the waves assessed in this study. Subjective measures of how one perceives their community would be a useful mechanism to explore for neighborhood effects.

This study finds that neighborhood contextual factors matter for the housing stability of mothers with young children. Future research is needed to explore a more diverse set of contextual factors for HHI including neighborhood-level segregation in the context of city-level segregation and other city- or metropolitan-level factors. Different levels of segregation operate differently for various outcomes. Living in a predominantly Black

neighborhood in a less segregated metropolitan area could have different consequences than living in a predominantly Black neighborhood in a metropolitan area with high levels of segregation. Neighborhood effects are difficult to capture, especially for households that are highly mobile. Also, research has found that the duration of exposure and timing of the exposure over the lifecourse help to shape the effects of place for individuals (Wodtke, Harding, & Elwert, 2011).

This study underscores the need to consider community-based solutions for policies aiming to reduce housing instability and homelessness in addition to relocation programs that move poor families to higher income and Whiter neighborhoods. How can policies maintain the protective elements of poor or segregated communities in crisis situations as identified in this study? These points are further elaborated in Chapter 5 of this dissertation.

Table 4: GEE Population Estimated Model of Individual and Community-level Factors on Frequent Moves Reported as Odds Ratios: 2 Waves 2001 - 2003

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mother Is Black	0.401*	0.522	0.606	0.783	0.956	0.795	0.963
	(0.168)	(0.252)	(0.272)	(0.393)	(0.479)	(0.409)	(0.500)
Mother's Age	0.915+	0.924+	0.917+	0.927+	0.933+	0.927+	0.933+
	(0.0480)	(0.0399)	(0.0455)	(0.0372)	(0.0367)	(0.0371)	(0.0365)
Foreign Born	12.64**	11.60**	10.88**	9.986***	9.752***	9.986***	9.739***
	(10.78)	(8.653)	(8.509)	(6.761)	(6.500)	(6.747)	(6.469)
Married	0.335+	0.345+	0.376+	0.390+	0.409+	0.390+	0.408+
	(0.211)	(0.202)	(0.221)	(0.211)	(0.215)	(0.210)	(0.216)
Number of Children in the Household	0.796	0.805	0.857	0.855	0.845	0.852	0.844
	(0.111)	(0.112)	(0.120)	(0.121)	(0.121)	(0.121)	(0.122)
Education	1.284	1.222	1.211	1.150	1.123	1.152	1.123
	(0.411)	(0.382)	(0.403)	(0.366)	(0.359)	(0.365)	(0.359)
Household Income	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(1.09e-05)	(1.11e-05)	(1.09e-05)	(1.11e-05)	(1.13e-05)	(1.10e-05)	(1.13e-05)
Owns Home	0.376	0.370	0.321	0.310	0.316	0.311	0.316
	(0.357)	(0.352)	(0.303)	(0.293)	(0.301)	(0.295)	(0.302)
Tract Over 50% Black		0.589		0.606	3.236	0.607	3.195
		(0.327)		(0.321)	(2.409)	(0.321)	(2.296)
Tract Over 25% Poor			0.177***	0.179***	0.177***	0.261	0.213
			(0.0920)	(0.0926)	(0.0904)	(0.295)	(0.230)
Black*Tract Over 50% Black					0.156*		0.158*
					(0.145)		(0.142)
Black*Tract Over 25% Poor						0.658	0.809
						(0.860)	(1.029)
3.wave	2.208	2.207	2.249	2.259	2.247	2.263	2.249
	(1.454)	(1.475)	(1.594)	(1.622)	(1.614)	(1.629)	(1.621)
Constant	0.137*	0.127*	0.137*	0.123**	0.102**	0.121**	0.101**
	(0.123)	(0.107)	(0.110)	(0.0949)	(0.0773)	(0.0932)	(0.0765)
Observations	5,207	5,207	5,207	5,207	5,207	5,207	5,207
Number of mothers in the sample	2,604	2,604	2,604	2,604	2,604	2,604	2,604

Robust *S.E.* in parentheses

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Note: All predictors are weighted

Table 5: GEE Population Estimated Model of Individual and Community-level Factors on Evictions Reported as Odds Ratios: 2 Waves 2001 - 2003

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mother Is Black	0.874	0.674	0.791	0.619	0.798	0.767	0.968
	(0.359)	(0.367)	(0.366)	(0.362)	(0.495)	(0.458)	(0.564)
Mother's Age	0.983	0.983	0.983	0.982	0.984	0.983	0.984
	(0.0302)	(0.0301)	(0.0302)	(0.0301)	(0.0301)	(0.0306)	(0.0305)
Foreign Born	0.00869***	0.00882***	0.00873***	0.00890***	0.00869***	0.00893***	0.00872***
	(0.00943)	(0.00956)	(0.00952)	(0.00968)	(0.00945)	(0.00969)	(0.00945)
Married	1.085	1.106	1.110	1.127	1.140	1.085	1.095
	(0.631)	(0.642)	(0.660)	(0.667)	(0.672)	(0.584)	(0.582)
Number of Children in the Household	0.937	0.935	0.918	0.916	0.916	0.903	0.905
	(0.0952)	(0.0948)	(0.105)	(0.105)	(0.104)	(0.115)	(0.113)
Education	0.621*	0.626+	0.633+	0.637+	0.629+	0.645+	0.635+
	(0.151)	(0.153)	(0.154)	(0.155)	(0.156)	(0.157)	(0.157)
Household Income	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(1.08e-05)	(1.07e-05)	(1.08e-05)	(1.07e-05)	(1.07e-05)	(1.05e-05)	(1.05e-05)
Owns Home	0.491	0.492	0.524	0.524	0.544	0.558	0.574
	(0.441)	(0.441)	(0.462)	(0.461)	(0.477)	(0.462)	(0.472)
Tract Over 50% Black		1.493		1.457	4.405*	1.472	4.295*
		(0.885)		(0.874)	(3.045)	(0.874)	(3.193)
Tract Over 25% Poor			1.526	1.509	1.516	2.355	2.296
			(0.764)	(0.762)	(0.751)	(2.420)	(2.359)
Black*Tract Over 50% Black					0.272		0.282
					(0.245)		(0.271)
Black*Tract Over 25% Poor						0.548	0.569
						(0.574)	(0.601)
3.wave	2.190+	2.210+	2.235+	2.255+	2.281+	2.278+	2.308+
	(0.949)	(0.941)	(0.977)	(0.967)	(0.998)	(1.006)	(1.041)
Constant	0.0978*	0.0952*	0.0854**	0.0839**	0.0722**	0.0735**	0.0642**
	(0.0944)	(0.0928)	(0.0805)	(0.0794)	(0.0668)	(0.0707)	(0.0587)
Observations	5,197	5,197	5,197	5,197	5,197	5,197	5,197
Number of mothers in the sample	2,604	2,604	2,604	2,604	2,604	2,604	2,604

Robust *S.E.* in parentheses

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Note: All predictors are weighted

Table 6: GEE Population Estimated Model of Individual and Community-level Factors on Doubling-Up Reported as Odds Ratios: 2 Waves 2001 - 2003

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mother Is Black	0.791	0.744	0.819	0.765	0.773	0.676	0.687
	(0.264)	(0.256)	(0.266)	(0.257)	(0.287)	(0.236)	(0.259)
Mother's Age	0.996	0.996	0.997	0.996	0.996	0.996	0.996
	(0.0199)	(0.0201)	(0.0200)	(0.0201)	(0.0201)	(0.0199)	(0.0199)
Foreign Born	0.0210***	0.0211***	0.0208***	0.0209***	0.0209***	0.0208***	0.0208***
	(0.0163)	(0.0164)	(0.0161)	(0.0162)	(0.0162)	(0.0161)	(0.0160)
Married	0.931	0.934	0.929	0.932	0.932	0.964	0.964
	(0.358)	(0.360)	(0.353)	(0.355)	(0.355)	(0.350)	(0.350)
Number of Children in the Household	0.856*	0.855*	0.861*	0.861*	0.861*	0.868*	0.868*
	(0.0602)	(0.0598)	(0.0599)	(0.0597)	(0.0594)	(0.0583)	(0.0580)
Education	0.698**	0.700**	0.692**	0.693**	0.693**	0.688**	0.688**
	(0.0842)	(0.0847)	(0.0824)	(0.0828)	(0.0829)	(0.0814)	(0.0815)
Household Income	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(5.81e-06)	(5.79e-06)	(5.85e-06)	(5.83e-06)	(5.87e-06)	(5.79e-06)	(5.83e-06)
Owns Home	0.149***	0.149***	0.147***	0.146***	0.146***	0.140***	0.141***
	(0.0616)	(0.0616)	(0.0599)	(0.0599)	(0.0602)	(0.0570)	(0.0573)
Tract Over 50% Black		1.101		1.116	1.214	1.112	1.288
		(0.282)		(0.284)	(0.675)	(0.284)	(0.678)
Tract Over 25% Poor			0.862	0.857	0.857	0.545	0.542
			(0.186)	(0.186)	(0.186)	(0.419)	(0.418)
Black*Tract Over 50% Black					0.912		0.851
					(0.565)		(0.505)
Black*Tract Over 25% Poor						1.749	1.763
						(1.354)	(1.372)
3.wave	1.194	1.197	1.187	1.189	1.190	1.181	1.181
	(0.252)	(0.252)	(0.249)	(0.249)	(0.248)	(0.248)	(0.248)
Constant	0.465+	0.462+	0.483+	0.481+	0.478+	0.518	0.512
	(0.195)	(0.193)	(0.200)	(0.198)	(0.201)	(0.215)	(0.216)
Observations	5,198	5,198	5,198	5,198	5,198	5,198	5,198
Number of mothers in the sample	2,604	2,604	2,604	2,604	2,604	2,604	2,604

Robust *S.E.* in parentheses

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Note: All predictors are weighted

Table 7: GEE Population Estimated Model of Individual and Community-level Factors on Homelessness Reported as Odds Ratios: 2 Waves 2001 - 2003

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mother Is Black	35.90***	72.64***	26.69***	53.86***	97.54***	43.41***	75.96***
	(31.39)	(66.33)	(20.55)	(43.21)	(93.37)	(35.87)	(73.37)
Mother's Age	0.988	1.004	0.985	0.997	0.998	0.997	0.998
	(0.0330)	(0.0327)	(0.0324)	(0.0315)	(0.0317)	(0.0315)	(0.0317)
Married	1.772	1.519	1.883	1.604	1.591	1.613	1.616
	(1.750)	(1.340)	(1.816)	(1.325)	(1.302)	(1.339)	(1.326)
Number of Children in the Household	0.605*	0.593*	0.592*	0.597*	0.597*	0.597*	0.598*
	(0.149)	(0.139)	(0.139)	(0.122)	(0.122)	(0.122)	(0.122)
Education	0.436***	0.367***	0.467***	0.397***	0.392***	0.395***	0.394***
	(0.0886)	(0.0861)	(0.0891)	(0.0871)	(0.0879)	(0.0872)	(0.0880)
Household Income	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(2.16e-06)	(2.53e-06)	(2.24e-06)	(2.55e-06)	(2.46e-06)	(2.59e-06)	(2.50e-06)
Tract Over 50% Black		0.226**		0.215**	32.84***	0.214**	45.57***
		(0.110)		(0.104)	(33.54)	(0.103)	(47.58)
Tract Over 25% Poor			2.539+	2.712*	2.685*	0.725	0.381
			(1.333)	(1.297)	(1.261)	(0.852)	(0.439)
Black*Tract Over 50% Black					0.00633***		0.00458***
					(0.00742)		(0.00558)
Black*Tract Over 25% Poor						3.808	7.243
						(4.796)	(9.635)
3.wave	1.486	1.495	1.568	1.579	1.590	1.575	1.579
	(0.522)	(0.561)	(0.530)	(0.587)	(0.597)	(0.587)	(0.595)
Constant	0.0194***	0.0204***	0.0145***	0.0153***	0.00845***	0.0191***	0.0107***
	(0.0176)	(0.0176)	(0.0150)	(0.0149)	(0.00930)	(0.0179)	(0.0114)
Observations	5,199	5,199	5,199	5,199	5,199	5,199	5,199
Number of mothers in the sample	2,604	2,604	2,604	2,604	2,604	2,604	2,604

Robust *S.E.* in parentheses

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Note: All predictors are weighted

Table 8: Concentrated Poor Neighborhood Odds for Frequent Moves: 2 Waves 2001 - 2003

Mediators	Total Effect	Indirect Effect	Direct Effect
Family or Friends Could Loan $1,000	0.464+	**1.229*** **	0.377*
Family or Friends Could Cosign Loan for $5,000	0.417*	1.072	0.389**
Fair or Poor Health	0.942	1.003	0.939
Health Condition Limits Activities	0.392*	1.001	0.391*
Substance Abuse Interferes with Life	0.946	1.002	0.944
Experienced Violence from Current Partner	0.389**	0.997	0.391**
Positive Relationship with Current Partner	0.419*	**1.067+**	0.392**
Current Partner Ever in Jail	0.403*	**1.034+**	0.390*
Mother Ever in Jail	0.398**	1.010	0.394**

Table 9: Majority Black Neighborhood Odds for Homelessness: 2 Waves 2001 - 2003

Mediators	Total Effect	Indirect Effect	Direct Effect
Family or Friends Could Loan $1,000	0.925	**1.271*** **	0.727
Family or Friends Could Cosign Loan for $5,000	0.812	**1.122+**	0.724+
Fair or Poor Health	0.715+	1.015	0.704*
Health Condition Limits Activities	0.734	1.014	0.724+
Substance Abuse Interferes with Life	0.704*	1.001	0.704*
Experienced Violence from Current Partner	0.725	**1.034***	0.702
Positive Relationship with Current Partner	0.733	1.013	0.724
Current Partner Ever in Jail	0.726	1.001	0.726
Mother Ever in Jail	0.727	1.000	0.727

Table 10: Concentrated Poor Neighborhood Odds for Homelessness: 2 Waves 2001 - 2003

Mediators	Total Effect	Indirect Effect	Direct Effect
Family or Friends Could Loan $1,000	1.285	**1.277*** **	1.006
Family or Friends Could Cosign Loan for $5,000	1.137	**1.107***	1.027
Fair or Poor Health	1.109	1.019	1.088
Health Condition Limits Activities	1.046	**1.018+**	1.027
Substance Abuse Interferes with Life	1.093	1.000	1.092
Experienced Violence from Current Partner	1.053	1.021	1.030
Positive Relationship with Current Partner	1.039	1.009	1.029
Current Partner Ever in Jail	1.031	1.002	1.029
Mother Ever in Jail	1.031	1.001	1.030

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Note: Each mediator is assessed separately using ldecomp in Stata (Buis, 2010). Analyses include same control measures included in Table 2 but are not shown here. Data are unweighted.

CHAPTER 4

RISK FACTORS AND RACIAL DISPARITIES FOR HOMELESSNESS: ECOLOGICAL AND CONTEXTUAL ANALYSES

Introduction

How to address homelessness is an important policy question for communities across the U.S. Homelessness has serious consequences for both individuals and communities. Homelessness is primarily a result of the lack of affordable housing in the U.S. (Honig & Filer, 1993; Lee et al., 2003). Because there is no right to housing in the U.S., as there is with education, the problem of homelessness persists. There are public programs and broad efforts to address homelessness, but they lack sufficient resources to address the needs of everyone experiencing homelessness. Therefore, policy makers often must determine who is most likely to become homeless and prioritize scarce resources to minimize the impact of homelessness generally.

Preventing homelessness (as opposed to helping those who are already homeless) would be ideal in terms of reducing harm to individuals and reducing the costs of emergency services incurred by communities. Prevention means identifying persons most at risk and intervening early on, such as when households first present to community organizations to request rental assistance if they are about to be evicted. In addition, identifying communities with higher rates of homelessness among residents enables programs to target policies, outreach efforts, and funding to those communities to prevent homelessness.

As demonstrated in the previous chapters, one's race and the neighborhood where they reside can impact their risk of housing instability and homelessness. In order to further explore the effects of race and place to inform policy specifically for homelessness, this chapter combines two separate studies. The first study uses FFCW survey data but focuses on the differences between mothers who experience housing instability and mothers who experience homelessness, which is often a comparison used in the homelessness prevention literature. This multilevel study tests whether race effects, neighborhood poverty, and segregation matter for the distinction between these two groups. The second study uses administrative data collected from communities across the U.S. and explores whether there is a disproportionate share of African Americans in the homeless population relative to the total population and whether racial segregation and poverty are associated with community-level racial disparities in homelessness. Putting these studies of ecological and contextual evidence together will reveal the full extent to which race and place matter for homelessness to inform policy and program targeting.

Multilevel Study

Race and Place: Predicting Homelessness at the Individual Level

Predicting who will become homeless out of those who are considered "at risk" of homelessness has become an important inquiry at the federal level in terms of the effectiveness of homelessness prevention programs and the amount of funding put towards those efforts (Burt, Pearson, & McDonald, 2005; Shinn & Baumohl, 1998). Unfortunately, the consensus among researchers is that it is very difficult to predict who will experience homelessness (Lindblom, 1991). For instance, Shinn, Baumohl, and Hopper (2001), exploring risk factors for families in New York, were only able to predict homelessness for 66% of the families who experienced homelessness despite considering an extensive array of

risk factors. This study compared those requesting shelter to those receiving welfare in the same community. However, better targeting is possible. In their review of prevention programs, Burt et al. (2005) found the best targeting methodology came from communities who used community-wide strategies and data to share information on what local factors put persons at risk of homelessness. Such factors could include changes to local programs, cuts in funding, closures of local businesses, or housing policies. In addition, risk factors were based on characteristics of persons already homeless in their community.

Homelessness does not often occur directly from a stable housing situation. Most often, people experience periods of housing instability prior to entering a shelter or sleeping in a car. Isolating an examination of risk factors to those experiencing housing instability can further isolate the contributing factors that lead to literal homelessness. "… Various factors may propel individuals in the general population into vulnerable housing, and then other, perhaps different, causal factors may push them over the edge into homelessness" (Wright et al., 1998, p. 106).

The effects of race and place may differ for those experiencing housing instability compared to those in the general population in terms of their respective risk for homelessness. For instance, public housing and affordable rental housing are disproportionately located in poorer communities and occupied by racial and ethnic minorities (Halasz, 2011). These types of housing do not allow residents to co-reside or "double-up," thus limiting the housing options for family members who need a place to stay during a crisis or transitional period. Therefore, even with social ties, there may be less capacity to accommodate movers living in segregated communities, resulting in more instances of homelessness. Thus, determining the proximate causes of literal homelessness for a particular group, such as based on race or neighborhood and housing instability, could

be productive for more effectively targeting homelessness prevention efforts.

Multilevel Study Aims

Given the findings in the literature discussed above, this study addresses the following four questions:

1) Are measures of housing instability significantly related to literal homelessness for mothers in the FFCW?
2) Are there Black -White race effects for mothers experiencing homelessness among those who are unstably housed? Do individual and neighborhood measures explain this effect in this restricted sample of unstably housed mothers in the FFCW?
3) Are there significant neighborhood poverty and segregation effects for mothers experiencing homelessness controlling for individual-level characteristics among mothers who are unstably housed?
4) Finally, are there differences in the risk factors associated with homelessness for Black mothers compared to White mothers in the FFCW?

Multilevel Study Methods

Multilevel data from the FFCW survey used for this study, including descriptions of measures used, have been described in Chapter 2 of this dissertation. My analytical approach using FFCW is also discussed in Chapter 2.

Multilevel Study Results

Descriptive Statistics

Descriptive statistics for the measures used in this study are presented in Table 11. Descriptive statistics are displayed for those experiencing housing instability and those experiencing literal homelessness. The percentages are based on differences between persons. Housing instability includes those who have doubled-up for economic reasons, those who have been evicted, those who moved more than two times in 1 year, and those who experienced homelessness at any point during the longitudinal survey, which include three follow-up waves between 2001 and 2005. In this study, 3.88% of all mothers experienced homelessness, while 22.22% of mothers experiencing housing instability experienced homelessness.

In terms of individual-level characteristics, mothers who experience homelessness are more often Black, foreign-born, older, and less likely to be married than are those who do not. In terms of indicators socioeconomic status, homeless mothers are less educated than mothers who are not homeless; just 16% have at least some college education compared to 27% of unstably housed mothers. In addition, homeless mothers have significantly lower income than unstably housed mothers ($14,497 compared to $22,534). Home ownership was excluded from the analyses in this chapter, as too few people both owned a home and experienced housing instability. Interestingly, homeless mothers report more family or friend support in terms of willingness and ability to loan money or co-sign a loan than the larger group of unstably housed mothers. Homeless mothers are significantly more likely to report domestic violence, however, and are less likely to report having a positive relationship with their current partner. Finally, homeless mothers often report living in segregated neighborhoods and/or neighborhoods with concentrated poverty than the

broader group of unstably housed moms. All other measures showed no significant differences between these groups.

Homelessness Among Those Unstably Housed

Not everyone who experiences housing instability becomes literally homeless. However, as discussed earlier, housing instability is an important predictor of homelessness. Table 12 shows the relative influence of frequent moves, evictions and doubling-up on a mother's risk of homelessness while controlling for individual factors, including basic demographics and socioeconomic status.

Table 12 shows that all three measures of housing instability are highly associated with literal homelessness. Mothers who moved frequently (or two or more times within a year) were 6.7 times more likely to have also experienced homelessness than those who did not move frequently ($p < 0.001$). Mothers who had been evicted were 21 times more likely to have experienced homelessness ($p < 0.001$) than those who had not, and mothers who doubled-up were almost 15 times more likely to have experienced homelessness ($p < 0.001$) than those who had not. Combined, mothers who had doubled-up for economic reasons had the highest association to homelessness compared to frequent moves or doubling-up. This table does not account for a sequence of events where homelessness necessarily follows other forms of housing instability, but it shows the greater likelihood of identifying mothers at risk of homelessness among those experiencing housing instability generally.

Homelessness Among Those Unstably Housed: Race Effects

By restricting the analyses to mothers already experiencing housing instability, it is possible to further focus on the predictive factors for literal homelessness to inform policy and program targeting. Results in Table M3 show the GEE population estimated model for

homelessness using a restricted sample of those mothers who are unstably housed. The table uses the same modeling strategy outlined in Chapter 2 to understand pathways contributing to race effects.

Results in Table 13 show that Black race is significantly associated with 28 times greater odds for experiencing homelessness among unstably housed mothers ($p < 0.001$). Regarding socioeconomic and demographic factors, shown in models 2 and 3, having more children in the household and education were linked to lower odds of homelessness, while being foreign born (non-Hispanic or Latino) is associated with increased risk. Also noteworthy in model 3 is the fact that the effect for race increases from an odds ratio of 28 in model 1 to an odds ratio of 54 and remains significant. Other theorized pathways including health, social support, relationship quality, and time in jail are not significant in the restricted sample of unstable mothers. Finally, the last model includes two tract-level factors—whether mothers reside in neighborhoods with more than 50% Black residents (segregated neighborhoods) and whether the neighborhood has more than 25% poor residents (neighborhoods with concentrated poverty). Neighborhood concentrated poverty is significantly associated with higher risk for homelessness (odds ratio = 3.025, $p < 0.001$), while segregated neighborhoods are not significant as they were for using the full FFCW survey.

Homelessness Among Those Unstably Housed: Neighborhood Effects

In Table 14, I use a GEE population approach to explore how neighborhood-concentrated poverty and neighborhood segregation affect homelessness among a restricted sample of mothers experiencing housing instability more generally. Model 1 includes individual-level controls and shows that Black race, being foreign born, and household income (albeit marginally) are significantly associated with higher odds of homelessness,

whereas education and number of children are associated with lower odds of homelessness. Here again, Black mothers are more likely to be associated with homelessness outcomes (odds ratio = 27.78, $p < 0.001$) compared to White mothers and including other individual-level controls.

In model 2, neighborhood segregation is not significantly linked to homelessness. In model 3, living in a neighborhood with concentrated poverty is associated with higher odds of experiencing homelessness (odds ratio = 3.050, $p < 0.001$), controlling for individual-level factors. Both neighborhood measures are included in model 4 with little change to their effect sizes. Model 5 looks at whether the effect of neighborhood segregation is modified by race. The interaction between segregated communities and mother's race is significant. Living in a segregated neighborhood is significantly related to a reduction in the odds of homelessness for Black mothers compared to White mothers. The odds ratio for Black mothers in nonsegregated neighborhoods is 15.26 ($p < 0.05$) compared to 0.519 ($p < 0.01$) for Black mothers in segregated neighborhoods compared to White mothers. No neighborhood measures were significant in model 6 for the interaction between race and neighborhood concentrated poverty. Finally, in model 7, with all neighborhood measures and interactions included, neighborhood segregation remains significant (odds ratio = 18.16, $p < 0.05$) as well as the interaction between Black race and neighborhood segregation (odds ratio = 0.0285, $p < 0.01$).

To summarize, Black communities could be considered protective for Black mothers, while non-Black communities are more risky for Black mothers trying to avoid homelessness. These results are similar to the results when examining the entire FFCW sample as displayed in Chapter 3. The effect sizes, however, are not as large, meaning once mothers have gotten to the point of experiencing housing instability, the safety net and risks

surrounding community-level factors such as poverty and race have already exerted some influence. In this same model, the significance and odds ratio of tract-level poverty is not affected by the addition of the interaction effect.

Homelessness for White and Black Mothers

Unfortunately for research purposes, very few White mothers report experiencing homelessness in the FFCW survey, making it difficult to compare Black and White experiences for homelessness specifically. With this limitation in mind, these outcomes are still explored for White and Black mothers in Table 15 using the total survey. Model 1 in Table 15 includes all individual level characteristics, model 2 includes only significant characteristics from model 1, and model 3 includes neighborhood segregation and concentrated poverty along with individual-level significant factors identified in model 2.

For Black mothers in the full FFCW sample, being foreign born (odds ratio = 5.270, $p < 0.05$), having spent time in jail (odds ratio = 8.088, $p < 0.05$), and living in a neighborhood with concentrated poverty (odds ratio = 2.650, $p < 0.05$) are associated with increased risk for experiencing homelessness. Associated with lower odds are number of children in the household (odds ratio = 0.679, $p < 0.01$), education (odds ratio = 0.370, $p < 0.001$), and living in a segregated neighborhood (odds ratio = 0.198, $p < 0.01$). For White mothers, being foreign born (odds ratio = 0.000 $p < 0.001$) is associated with lower odds for homelessness. For White mothers, higher odds of experiencing homelessness are associated with having a health condition (odds ratio = 10.19, $p < 0.05$), having family or friends could loan $1,000 (odds ratio = 6.755, $p < 0.10$), and living in segregated neighborhoods (odds ratio = 35.58, $p < 0.001$). It is counter-intuitive that having social support from friends and family in the form of being available to loan money would be a risk factor for homelessness. Perhaps the reciprocal obligation of loans relative to co-signatures is less helpful for mothers

who are unstably housed. Some mothers in the survey (13%) reported family and friends would lend $1,000 but could not co-sign a loan, and others (8%) vice versa. These results may also be due to the small number of White mothers experiencing homelessness.

Multilevel Study Discussion

This study uses a multilevel approach to examine the effects of race and place for the risk of homelessness using the Fragile Families and Child Wellbeing Survey. Wherever possible, I restricted the sample to focus on those experiencing housing instability in order to get a sense of the more proximate causes of homelessness and determine whether race and place effects are more or less influential among this targeted group. Roughly 22% of families experiencing housing instability are homeless compared to 3.88% in the full FFCW sample. In this context, "homelessness" means mothers and their children have slept in a car, another place not meant for habitation, or in an emergency shelter.

Homelessness is costly both to the community and to those who have to live in inhospitable, cramped, or unhealthy conditions. A common policy question has been whether it is possible to predict homelessness in order to prevent it. Many studies point to the fact that there is no real way to predict homelessness due to the confluence of so many factors that lead to it. However, one commonly noted feature is that persons who experience homelessness most often experience some form of housing instability first, suggesting that homelessness is the result of a gradual process (Burt et al., 2005). This study attempts to narrow the scope of families who are at risk of homelessness by focusing on those families experiencing any form of housing instability (including homelessness) to determine whether any risk factors stand out. Indeed, my study finds high associations between mothers experiencing housing instability and those experiencing homelessness, but not perfect correlations, meaning there are other pathways in which mothers could become homeless

that do not include prior instances of housing instability, or else include forms of housing instability not examined in my study.

The results in this study for individual risk factors are largely consistent with other studies on homelessness. Specifically, the greatest protective effect comes from education, and the greatest risk is associated with one's being African American. However, the risk associated with being foreign-born is often found to be protective in studies of homelessness (Lee et al., 2010), whereas my study finds it to be associated with increased risk, which is particularly pronounced for Black mothers. As mentioned in the previous chapter, by excluding Latinos from my survey, the protective immigrant effect could have been lost. Another contradictory finding is that of additional income being associated with greater risk of homelessness. Domestic violence is another commonly considered predictor of homelessness among families, however, it has been inconsistently linked to homelessness (McChesney, 1995; Shinn, Greer, Bainbridge, Kwon, & Zuiderveen, 2013; Wood et al., 1990). In my study, even though domestic violence is significantly higher for mothers experiencing homelessness than those unstably housed in Table 11 of descriptive statistics, it is not significant when included in a model with race as in Table 13. Overall, the results for domestic violence could be the result of weights applied to the sample and the smaller sample size used in the analysis for this study.

The contextual effects of neighborhood segregation and concentrated poverty have not been widely examined in the homelessness literature. However, Rukmana (2010), in a study of prior zip codes, found families were more likely to come from places with higher rates of poverty and segregation. My study is consistent with Rukmana's in terms of a risk from high poverty areas but finds that segregation can be protective for Black mothers. Rukmana's study is based on an analysis of aggregate data and is not able to associate prior

zip codes with other individual characteristics such as race.

The FFCW survey is powerful because it is both population-based and longitudinal. In addition, the FFCW stands out among social science surveys for homelessness research because it uses measures consistent with various federal definitions for homelessness, including the U.S. Department of Housing and Urban Development and U.S. Department of Education. Homelessness, however, is a relatively rare occurrence, making it difficult to capture in such broad survey. Therefore, to further examine the effects of place and race for homelessness, it is necessary to look at administrative data on homelessness.

Ecological Study

Racial Disparities in Homelessness at the Community Level

Many studies have explored the ecological correlates of the size of homeless populations across metropolitan areas in the U.S. (Bohanon, 1991; Burt, 1991; Elliott & Krivo, 1991; Honig & Filer, 1993; Lee et al., 2003). These studies are based on a 1984 HUD survey of expert interviews, a count of shelter beds in 1989, or on a single night count of homeless persons in 1990 as part of the U.S. Census. They examine several community characteristics including population demographics and socioeconomic characteristics as well as public spending, affordable housing, and availability of shelter beds for rates of homelessness. In addition, climate is controlled for in many studies, which can influence the number of homeless persons. These earlier estimates of homelessness have many flaws but developed an important basis for analyzing the structural, demographic, and social forces contributing to homelessness. Early enumerations of homelessness were highly criticized for their undercounting the homeless population, their over-reliance on expert assessment, and their general lack of standardized methods across areas (Byrne, Munley, Fargo, Montgomery, & Culhane, 2012). Later studies used data from HUD's Point-In-Time count, or "PIT," in

which a single night count of homeless persons is collected biannually. Using the PIT for estimating the prevalence of homelessness has some limitations, however. The PIT has standardized survey questions based on a federal definition of homelessness. It requires that volunteers find and survey persons in places not meant for habitation or in emergency shelters and housing programs. It is an improvement on earlier methods in that it is more comprehensive, but it still has the limitations of potential miscounts and does not capture the number of persons who experience homelessness throughout the year.

Many studies have looked at poverty rates and the proportion of the population who are African American in the general population to predict the rates of homelessness. For poverty, Quigley, Raphael, and Smolensky (2001) found a positive correlation between poverty rates and the rate of homelessness. However, other studies have found no effect for poverty on rates of homelessness (e.g., Byrne et al., 2012; Elliott & Krivo, 1991; Lee et al., 2003). Significance of poverty is largely based on the inclusion of other measures included in these analyses, such as unemployment, and the number of single and female-headed households, which could be correlated with poverty rates.

In terms of race, many of ecological studies explore the effect of the percent of African Americans in the population for homelessness. Percent Black also had mixed effects. One study found that percent Black was significantly associated with an increased rate of homelessness (Elliott & Krivo, 1991), while others found no effect (Honig & Filer, 1993; Lee et al., 2003). Byrne et al. (2012), using PIT data from 2009, found that the proportion Black lowered the rate of homelessness in nonmetropolitan areas but had no effect in metropolitan areas. Fargo, Munley, Byrne, Montgomery, and Culhane (2013), in another ecological study using similar data as Byrne et al. (2012), looked at separate analyses for families and singles to predict rates of homelessness among the general population as well as

those in poverty. They did not include racial and ethnic composition but did include theoretical pathways that could link Black race to homelessness such as crime rates, which disproportionately affect Black communities, and found significant increases in homelessness in metropolitan areas associated with crime rates for both homeless families and singles.

Overall, whether race and poverty at the community-level are significant depends on a lot of factors, including the data source, the timeframe in question, and the other measures included in the model. For instance, residential instability, when included in the model, could account for some of the race effect. While Blacks are less mobile in terms of locational attainment than Whites (Massey & Denton 1987), studies have found that low-income Blacks move more often, as they are more often renters (McAllister, Kaiser, & Butler, 1971). Without stepwise modeling or correlation matrices, it is difficult to know how various factors could contribute to one another.

Other measures, such as concentration of poverty and the extent of racial segregation, have not been assessed in terms of homelessness at the community level but could impact homelessness both in terms of rate and composition. The most common finding across studies is that rental markets and the presence or absence of affordable housing have a strong influence on the rates of homelessness. This is a robust finding across all sources of data and timeframes. It makes sense that if the number of households exceeds the number of available housing units, the result would be related to the size of the homeless population in a given community. What is not clear is who among those households will be left without housing when the number of households exceeds units available. The composition of homeless populations in communities has not been widely explored. Most studies have focused on predicting overall rates of homelessness, and only a few have looked

at rates for subpopulations such as families and single adults (Fargo et al., 2013).

Ecological Study Aims

Given the findings in the literature discussed above, this study addresses the following three questions:

1) Are there a disproportionate number of African Americans experiencing homelessness relative to the proportion of African Americans in the general population across the U.S.?
2) Is racial segregation associated with the disproportionate number of African Americans in the population?
3) Is concentrated poverty associated with the disproportionate number of African Americans in the population?

Ecological Study Methods

Data

Administrative data from the 2009 Annual Homeless Assessment Report (AHAR) are used to determine whether racial disparities exist for homelessness between communities across the U.S. Homelessness is defined in these data according to the U.S. Department of Housing and Urban Development's (HUD) definition, an individual or family who lacks a fixed, regular, and adequate nighttime residence and has a primary nighttime residence that is a place not meant for human habitation, an emergency shelter, transitional housing, or are exiting an institution where they stayed a short time (90 consecutive days or less) and who resided in an emergency shelter or place not meant for human habitation prior to entering the institution. The AHAR compiles data on the total number of homeless persons served and their characteristics collected from all Continua of Care (CoC) annually. CoC's are

homeless provider networks whose jurisdictions are based on service catchment areas or collections of counties that exist under the U.S. Department of Housing and Urban Development's Office of *Special Needs Assistance Programs*. In 2009, there were roughly 450 CoCs nationally. Only 3% of communities in the U.S. are not included within a CoC jurisdiction and would therefore not be included (AHAR, 2011).

Data collection for the AHAR consists of two types of reporting methodologies. The first is based on an annual census of all persons experiencing homelessness on a single night, or a "Point-In-Time Count." For the second, data are collected about persons served and the services provided by participating service providers year-round according to the Homeless Management Information System (HMIS) data standards. These data are reported as unique persons served each year. Data in the AHAR are only reported if data quality is greater than 90% (meaning no more than 10% of the data are missing or have responses of don't know/refused), at least 50% of the total homeless services in an area collect and report on these indicators, and services are actively being utilized. Of all CoCs that existed in 2009, 72% were able to contribute data to the AHAR.

Data were downloaded by copying information from each CoC's AHAR available from a public online source. Data include reports for families and singles in emergency shelter or transitional housing, all of whom are considered by HUD to be homeless. Segregation indices and other control measures are constructed from the 2010 U.S. Census or related administrative data sources at the county level. Weighted means of indicators were combined for CoCs comprised of multiple counties for analysis. Analysis for this study includes data from 319 Continua of Care based on successful reporting, or 73% of the total number of CoCs that exist nationally (435) and a population weighted percent of 87%. All regions in the U.S. have a population-weighted percent of 84%.

Measures

The outcome measure is the net difference between the percent of African Americans in the homeless population compared to the percent of African Americans in the total population. Predictors include three indices of racial segregation and one measure of concentrated poverty. Measures of segregation are based on Black-White differences only. No other races or ethnicities are included in order to simplify the interpretation of racial dynamics in this study. The segregation measures include the dissimilarity, isolation, and concentration indices, which were constructed from the 2010 U.S. Census and based on tracts within counties. Concentrated poverty consists of the percent of residents living in census tracts where the poverty rate is higher than 40%. Control variables include region (West, Midwest, South and Northeast), and percent urban.

I performed several diagnostic tests on the data to determine the accuracy and precision of the results. These tests included testing the multicollinearity between predictors. The variance inflation factor was considered high when I included a control measure for population size. This is most likely because total population was used to calculate segregation indices (Allison, 2012). Therefore, I removed population from my analyses. Robust standard errors were used to deal with heteroscedasticity in the data.

Ecological Study Results

Descriptive Statistics

Descriptive statistics across the Continua of Care in 2009 are presented in Table 16. Control measures include geographic region, and percent urban. The average percent of the population living in urban areas is 80%. The proportion of persons living in each region shows that 15% of people live in the West, 24% in the Midwest, 35% in the South, and 26% live in the Northeast. Total population was included for informational purposes and

averaged 930,000 persons across the CoCs.

Among the communities included in this study, the average dissimilarity index—that is, the percent of people who would need to move in order to have equivalent numbers of Blacks relative to Whites across Continua—is 41%. The Black–White isolation index, which denotes the percent of Black persons not in direct contact with White persons spatially, is 29% on average. Black to White concentration similarly measures the amount of people who would have to move in order to even out the relative concentration of groups. According to these data, an average of 67% of the Black population would need to relocate or disperse in order to eliminate segregation of Blacks relative to Whites in these communities. Finally, 1.17% of the total population lives in concentrated poverty, or where poverty is greater than 40% in a census tract.

According to the 2010 U.S. Census, the percent of Black persons among the total population was 12.6%. The average percent Black for homeless populations nationally was 34% in 2009. For homeless persons in families the percent was higher (40%) and for single individuals the percent Black was lower (31%). Figure 2 shows the relative disparity between the percent Black in the homeless population compared to the percent Black of total population, graphed for each Continuum in 2009. A line is provided to show where the percentages would be equivalent. The outcome measure for this study is the difference between the proportions of Blacks in the homeless population compared to the total population. The average difference between the proportion of the homeless population that is Black compared to the total population that is Black is +16% and ranges from -20% to +61%.

The correlation of predictors and controls is displayed in Table 17. Many indicators are significantly related to one another. Only two pairs of variables—population and

urbanization as well as dissimilarity and isolation—have high correlations (above 0.70). Total population was used to calculate the segregation indices, which explains the high correlation. Because of this issue, I excluded total population from the analysis in Table 18.

OLS Results

Ordinary least square (OLS) models were used to examine the relationship between predictors and the percent of Black persons among the total homeless population minus the proportion Black in the total population in each CoC.

Table 18 displays OLS models of segregation and concentrated poverty on the net percent of the homeless population that is Black compared to the total population. Model 1 includes the control measures of the percent of the population living in an urban area, and region where the West is the reference group. The Midwest, South, and Northeast regions of the U.S. are significantly and positively related to the percent or Black persons found among the total homeless population compared to the West ($\beta = 0.171$, $p < 0.001$; $\beta = 0.134$, $p < 0.001$; $\beta = 0.130$, $p < 0.001$, respectively). The percent of the population living in urban areas is also positive and significant ($\beta = 0.0576$. $p < 0.001$). Model 2 includes a weighted measure of Black to White dissimilarity index. This index is significant, and each additional unit on the index indicates an increase of about 3% of Blacks among the homeless population ($\beta = 0.0295$, $p < 0.001$). Inclusion of the dissimilarity index slightly lowers the effects of control measures presented in model 1. Model 3 introduces Black to White isolation index along with the controls. This index is significant, and each additional unit on the index indicates an increase of about 5% of Blacks among the homeless population ($\beta = 0.0480$, $p < 0.001$). Isolation accounts for more of the effect of South and percent urban than does the dissimilarity index presented in the previous model. The concentration index of Blacks

relative to Whites (shown in model 4) is not significant. Model 5 includes the percent of persons living in concentrated poverty. This measure is also not significantly related to the outcome measure.

Finally, model 6 combines all predictors. Isolation is the only predictor that remains significant in the final model ($\beta = 0.0651$, $p < 0.001$). The effect isolation increases its effect from 5% to 6.5%. Overall, the measures included in the final model explain 38% of the variation in the net percent Black among the homeless population compared to the total population nationally in 2009, as compared with 27% with just the control measures.

Ecological Study Discussion

African Americans are disproportionately represented among the homeless population. On average, African Americans' proportion in the homeless population was 20% higher than their proportion in a given CoC. One policy question might be whether the proportion of any particular subgroup drives the overall numbers of homeless persons. If so, targeting a particular group may be fruitful for addressing homelessness overall.

In this study, I wanted to see, first, how pronounced this disparity was, and second, whether racial segregation of Blacks relative to Whites and concentration of poverty explain this finding. I found that racial segregation, specifically racial isolation, has the largest and most consistent effect for explaining the disproportionate share of Blacks in the homeless population. The isolation index is related to the amount of potential interaction between Black and White communities. Isolation of Blacks could be linked to higher rates of homelessness among Blacks due to the spatial mismatch of jobs relative to the communities where Blacks reside. People living in isolated Black communities have lower levels of human and social capital (Wacquant & Wilson, 1989; Wilson, 1987). This study can only speculate

whether these pathways indeed link the higher levels of isolation to the higher disproportionate shares of Blacks among the homeless because of the potential for ecological fallacy using this study design. Overall, segregation helps explain the disproportionate share of Blacks among the homeless.

Various measures of segregation are more or less plausible for studying homelessness. Dissimilarity, or the "unevenness" of racial groups across areas relative to other groups, is the most commonly used measure of segregation, but the mechanisms operating to create racial inequalities are not always as clear. Isolation and concentration are more appropriate for capturing the conditions of segregated communities and may be more appropriate for studying homelessness outcomes. All three were assessed in this study, and dissimilarity and isolation were significant and associated with increased proportions of African Americans in homelessness relative to the total population. Other indices of segregation, including those based on spatial units other than census tracts, would also be useful to explore in terms of disparities for homelessness by race (Lee et al., 2008).

There are several limitations for using AHAR data for examining the racial composition of the homeless population. First, not all homeless service providers participate in HMIS, which collects the data for the AHAR. Second, not all data entered into HMIS meet the requirements to submit their data for the AHAR. Finally, the AHAR does not capture data from persons who receive services in places not meant for habitation. However, among national estimates of homelessness and particularly for discovering the proportion of the overall population experiencing homelessness who are Black, the AHAR offers the only national estimates and has data thresholds for quality and coverage that make up for some of the issues with using administrative data. AHAR data are based on consistent data standards used for all programs receiving funding from the U.S. Department of Housing and Urban

Development. AHAR data were collected in 2008 and reported in 2009, only 2 years in difference from the 2010 U.S. Census. Because the dependent variable for the ecological analyses is based on administrative data on homelessness, results should be treated as exploratory in nature and a first attempt to explore disparities in homelessness for African Americans across the U.S.

Year-round data reported in the AHAR have not been used for ecological studies of homelessness, in part because the data are not easily accessible and require individual downloads of each CoC's report. However, there are important benefits to using the year-round AHAR data as opposed to the single night PIT count. While the PIT captures unsheltered persons, it is only a single night and therefore disproportionately represents long-term or chronically homeless persons who are more likely to be present on any given night. Using the year-round AHAR provides a unique count of persons entering shelters and transitional housing throughout the year, capturing the majority of persons who may not appear on a particular night but are arguably more similar to the overall population experiencing homelessness and may be informative for future research on homelessness.

Overall Conclusion

Overall findings in this chapter for homelessness disparities by race as analyzed by both multilevel and ecological studies suggest that Black communities can protect Black mothers from experiencing literal homelessness even though they may be more likely to experience housing instability, specifically doubling-up. However, the prevalence of segregated Black communities in a larger geographic setting is indicative of broader institutional discrimination, which can put more Blacks at risk of experiencing homelessness and can help explain the disproportionate rates of Blacks in the homeless population. Restated, if African Americans are living in a Black neighborhood in a segregated city, their

neighborhood may protect them from the effects of other discriminating policies whereas African Americans not living in Black communities may not be afforded the same community protections. Therefore, future research should look at the effects of segregation for homelessness at multiple levels (Acevedo-Garcia, Lochner, Osypuk, & Subramanian, 2003).

Due to the nature of homelessness, it is notoriously difficult to collect good data on everyone who has experienced homelessness, particularly for persons sleeping in cars or on the streets. However, over the last decade, there have been vast improvements made in data collection for homelessness due to the efforts of the federal government to require semiannual counts of homelessness as well as for homeless programs to collect consistent data on those they serve in order to get federal funds. However, data collection is still based on community volunteers or program staff, few of whom are trained in research methods where data are considered administrative. Even though literal homelessness is included in the last two chapters using the FFCW survey, the number of mothers experiencing homelessness is very small because homelessness is a relatively rare occurrence. In the U.S. it is estimated that 1.6 million people experience homelessness each year (AHAR, 2012). This accounts for less than 0.5% of the total U.S. population.

Finally, there is an abundance of research on individual-level characteristics related to homelessness as well as ecological-level studies explaining the rate of homelessness overall. However, these studies leave a gap in terms of understanding which populations are at risk of homelessness in certain economic, demographic and social climates. Research gaps are largely the result of insufficient data. Many opportunities exist to obtain data from surveillance surveys, but the relevant questions regarding homelessness and housing instability will have to be introduced. Understanding how contextual factors condition

individual risk factors will be an important next step to inform social policy and program design.

Table 11: Unweighted Descriptive Statistics

Measures	Unstable	Homeless
Individual-level Predictors		
Mother Is Black	74.77%	86.12%***
Foreign Born	2.09%	3.83%*
Mother's Age	23.1 (4.99)	24(6.18)*
Mother's Married	20.26%	14.35%**
Number of Children in the Household	2.41 (1.40)	2.32 (1.20)
Education		
< High School	39.74%	47.85%
High School or Equiv.	34.12%	35.89%
Some College	22.61%	15.31%*
College Degree or Graduate School	3.53%	0.96%*
Household Income	$22,534 (23,076)	$14,497 (13,274)***
Fair or Poor Health	19.34%	29.29%
Substance Abuse Interferes with Life	2.04%	2.87%
Health Condition Limits Activities	12.72%	21.53%
Family or Friends Could Loan $1,000	36.13%	40.19%*
Family or Friends Could Cosign Loan for $5,000	27.74%	30.62%*
Experienced Violence from Current Partner	8.14%	24.88%**
Positive Relationship with Current Partner[a]	-0.30 (1.00)	-0.42 (0.82)*
Current Partner Ever in Jail	20.36%	25.36%
Mother Ever in Jail	2.99%	3.83%
Tract-level Predictors		
Tract Over 50% Black	54.96%	73.68%*
Tract Over 25% Poor	46.82%	59.81%***
TOTAL SAMPLE SIZE	**468**	**209**

Note: Between Person Percent reported for dichotomous variables and Mean (*S.D.*) reported for continuous variables

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

[a]Positive relationship is a factor score of 5 items including whether the mother feels their partner is fair, affectionate, encouraging, and listens and understands them.

Table 12: GEE Population Estimated Model of Housing Instability on Homelessness Reported as Odds Ratios: 2 Waves 2001 - 2003

	(1)	(2)	(3)	(4)
Mother Is Black	13.28***	12.90***	13.87***	16.62***
	(7.447)	(7.166)	(7.094)	(9.418)
Mother's Age	1.012	1.000	0.999	1.016
	(0.0259)	(0.0302)	(0.0270)	(0.0266)
Foreign Born	2.418	3.216*	4.976**	4.425**
	(1.322)	(1.868)	(2.938)	(2.365)
Married	0.990	1.066	1.056	1.175
	(0.654)	(0.688)	(0.703)	(0.787)
Number of Children in the Household	0.616***	0.585***	0.603***	0.568***
	(0.0904)	(0.0951)	(0.0920)	(0.0955)
Education	0.460***	0.470***	0.492***	0.484**
	(0.0862)	(0.0942)	(0.101)	(0.107)
Household Income	1.000	1.000	1.000	1.000
	(4.85e-06)	(3.60e-06)	(4.20e-06)	(4.82e-06)
Frequent Moves	6.709***			3.828+
	(3.546)			(2.637)
Evicted from Housing		21.10***		4.954***
		(8.706)		(2.035)
Doubled-up for Economic Reasons			14.63***	8.383***
			(4.856)	(2.912)
2.Wave	2.390+	1.732	1.819	2.486+
	(1.246)	(0.873)	(0.916)	(1.327)
3.Wave	3.256*	2.410+	2.963*	3.629*
	(1.543)	(1.158)	(1.436)	(1.900)
Constant	0.0108***	0.0167***	0.00811***	0.00394***
	(0.00900)	(0.0145)	(0.00714)	(0.00377)
Observations	7,799	7,800	7,800	7,794
Number of Mothers in the Sample	2,604	2,604	2,604	2,604

Robust *S.E.* in parentheses

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Note: All predictors are weighted

Table 13: GEE Population Estimated Model of Individual Factors on Homelessness for Those Experiencing Housing Instability as Odds Ratios: 2 Waves 2001 - 2003

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mother Is Black	28.17***	31.50***	54.19***	28.20***	22.28***	29.51***	27.55***	26.58***	25.85***
	(16.34)	(20.86)	(62.78)	(16.63)	(12.91)	(17.89)	(16.08)	(17.76)	(18.74)
Foreign Born		7.570*						7.827*	6.601**
		(6.003)						(6.467)	(3.868)
Mother's Age		1.007							
		(0.0264)							
Married		1.082							
		(0.560)							
Number of Children in the Household		0.791*						0.775*	0.781*
		(0.0904)						(0.0804)	(0.0806)
Education			0.644*					0.494***	0.564**
			(0.110)					(0.102)	(0.116)
Household Income			1.000*					1.000+	1.000+
			(1.36e-05)					(1.10e-05)	(1.11e-05)
Fair or Poor Health				0.961					
				(0.465)					
Health Condition Limits Activities				0.674					
				(0.361)					
Family or Friends Could Loan $1,000					0.572				
					(0.461)				
Family or Friends Could Cosign Loan for $5,000					0.687				
					(0.401)				
Experienced Violence from Current Partner						3.475			
						(2.657)			
Positive Relationship with Current Partner						1.060			
						(0.194)			

Table 13 (continued):

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Current Partner Ever in Jail							0.696		
							(0.384)		
Mother Ever in Jail							2.399		
							(2.384)		
Tract Over 50% Black									0.563
									(0.244)
Tract Over 25% Poor									3.025***
									(0.963)
3.Wave	1.734	1.926	2.013+	1.741	1.730	2.017	1.738	2.135	2.376
	(0.767)	(0.997)	(0.834)	(0.786)	(0.787)	(0.897)	(0.778)	(1.076)	(1.279)
Constant	0.0108***	0.00919***	0.00571***	0.0114***	0.0164***	0.00853***	0.0112***	0.0275***	0.0156***
	(0.00623)	(0.00961)	(0.00740)	(0.00689)	(0.0117)	(0.00511)	(0.00650)	(0.0226)	(0.0145)
Observations	934	934	934	934	934	934	934	934	934
Number of idnum1	468	468	468	468	468	468	468	468	468

Robust *S.E.* in parentheses

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Note: All predictors are weighted

Table 14: GEE Population Estimated Model of Individual and Community-Level Factors on Homelessness for Those Experiencing Housing Instability Reported as Odds Ratios: 3 Waves 2000 - 2003

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mother Is Black	27.78***	38.43***	19.45***	26.59***	52.39***	19.18***	36.85***
	(18.99)	(27.70)	(13.92)	(20.14)	(51.41)	(14.71)	(35.99)
Mother's Age	1.033	1.035	1.024	1.025	1.027	1.025	1.027
	(0.0282)	(0.0291)	(0.0267)	(0.0279)	(0.0284)	(0.0279)	(0.0285)
Foreign Born	7.983**	5.742*	9.658***	7.075***	6.826**	7.077***	6.811***
	(5.772)	(4.251)	(5.160)	(4.081)	(3.999)	(4.006)	(3.893)
Married	0.951	0.955	0.752	0.769	0.731	0.768	0.750
	(0.475)	(0.480)	(0.365)	(0.374)	(0.366)	(0.377)	(0.376)
Number of Children in the Household	0.760**	0.786*	0.745**	0.774**	0.777**	0.772**	0.774**
	(0.0730)	(0.0796)	(0.0721)	(0.0757)	(0.0758)	(0.0760)	(0.0760)
Education	0.454***	0.472**	0.509**	0.540**	0.543**	0.538**	0.546**
	(0.107)	(0.115)	(0.108)	(0.119)	(0.123)	(0.117)	(0.122)
Household Income	1.000+	1.000+	1.000*	1.000+	1.000+	1.000+	1.000+
	(1.12e-05)	(1.17e-05)	(1.08e-05)	(1.13e-05)	(1.21e-05)	(1.10e-05)	(1.18e-05)
Tract Over 50% Black		0.538		0.561	15.26*	0.562	18.16*
		(0.227)		(0.248)	(18.81)	(0.249)	(20.54)
Tract Over 25% Poor			3.050***	2.997***	3.005***	0.576	0.431
			(0.995)	(0.938)	(0.947)	(0.836)	(0.542)
Black*Tract Over 50% Black					0.0340**		0.0285**
					(0.0423)		(0.0328)
Black*Tract Over 25% Poor						5.414	7.301
						(7.980)	(9.275)
3.Wave	2.152	2.163	2.399+	2.417+	2.496+	2.395	2.444+
	(1.075)	(1.107)	(1.242)	(1.290)	(1.342)	(1.283)	(1.319)
Constant	0.0142***	0.0126***	0.0108***	0.00921***	0.00435***	0.0128***	0.00619***
	(0.0144)	(0.0129)	(0.0121)	(0.0104)	(0.00591)	(0.0139)	(0.00814)
Observations	928	928	928	928	928	928	928
Number of Mothers in the Sample	465	465	465	465	465	465	465

Robust *S.E.* in parentheses

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Note: All predictors are weighted

Table 15: GEE Population Estimated Model of Individual Factors on Homelessness for Blacks and Whites Reported as Odds Ratios: 2 Waves 2001 - 2003

	Black			White		
	(1)	(2)	(3)	(1)	(2)	(3)
Foreign Born	4.812**	5.041*	5.270*	8.28e-07***	7.52e-10***	1.73e-09***
	(2.431)	(3.952)	(3.481)	(1.35e-06)	(5.97e-10)	(1.97e-09)
Mother's Age	0.961			1.045		
	(0.0400)			(0.113)		
Married	1.362			1.059		
	(1.217)			(2.274)		
Number of Children in the Household	0.640*	0.670*	0.679**	0.572		
	(0.132)	(0.110)	(0.100)	(0.305)		
Education	0.493**	0.439***	0.370***	0.849		
	(0.111)	(0.0923)	(0.0946)	(0.519)		
Household Income	1.000			1.000**	1.000**	1.000**
	(3.12e-06)			(3.68e-05)	(4.69e-05)	(4.11e-05)
Fair or Poor Health	1.759			1.471		
	(0.697)			(1.270)		
Health Condition Limits Activities	1.196			8.324+	11.67**	10.19*
	(0.737)			(10.58)	(10.35)	(9.986)
Family or Friends Could Loan $1,000	0.294			11.59*	2.601	6.755+
	(0.239)			(12.83)	(2.484)	(7.012)
Family or Friends Could Cosign Loan for $5,000	0.872			0		
	(0.637)			(0)		
Experienced Violence from Current Partner	1.606			2.805		
	(0.651)			(2.786)		
Positive Relationship with Current Partner	0.876			0.502		
	(0.245)			(0.215)		
Current Partner Ever in Jail	0.950			0.864		
	(0.575)			(2.315)		
Mother Ever in Jail	6.664+	6.643+	8.088*	0.135		
	(6.893)	(6.748)	(8.385)	(0.309)		
Tract Over 50% Black			0.198**			35.58***
			(0.103)			(33.89)
Tract Over 25% Poor			2.650*			0.854
			(1.059)			(0.611)

Table 15 (continued):

	Black			White		
	(1)	(2)	(3)	(1)	(2)	(3)
3.Wave	1.644	1.451	1.558	24.10*	11.52*	38.47*
	(0.746)	(0.550)	(0.659)	(37.42)	(13.94)	(67.83)
Constant	0.744	0.358*	0.579	0.000739***	0.00164***	0.000164***
	(0.745)	(0.186)	(0.323)	(0.00141)	(0.00243)	(0.000346)
Observations	3,589	3,589	3,589	1,610	1,610	1,610
Number of idnum1	1,798	1,798	1,798	806	806	806

Robust *S.E.* in parentheses

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Note: All predictors are weighted

Table 16: Descriptive Statistics for HUD AHAR Data, 2009

Measure	**% (S.D.)**
Net Percent Black (Homeless Pop - Total Population)	20%
	(15%)
Total Population	928,689
	(1,402,805)
Percent of Population living in Urban Area	80%
	(20%)
Region - West	15%
Midwest	24%
South	35%
Northeast	26%
Black - White Dissimilarity	41%
	(13%)
Black - White Isolation	29%
	(21%)
Black - White Concentration	67%
	(12%)
Percent Living in Concentrated Poverty	1.17%
	(3.89%)
Number Continua of Care (number of service catchment areas that count homeless populations)	319

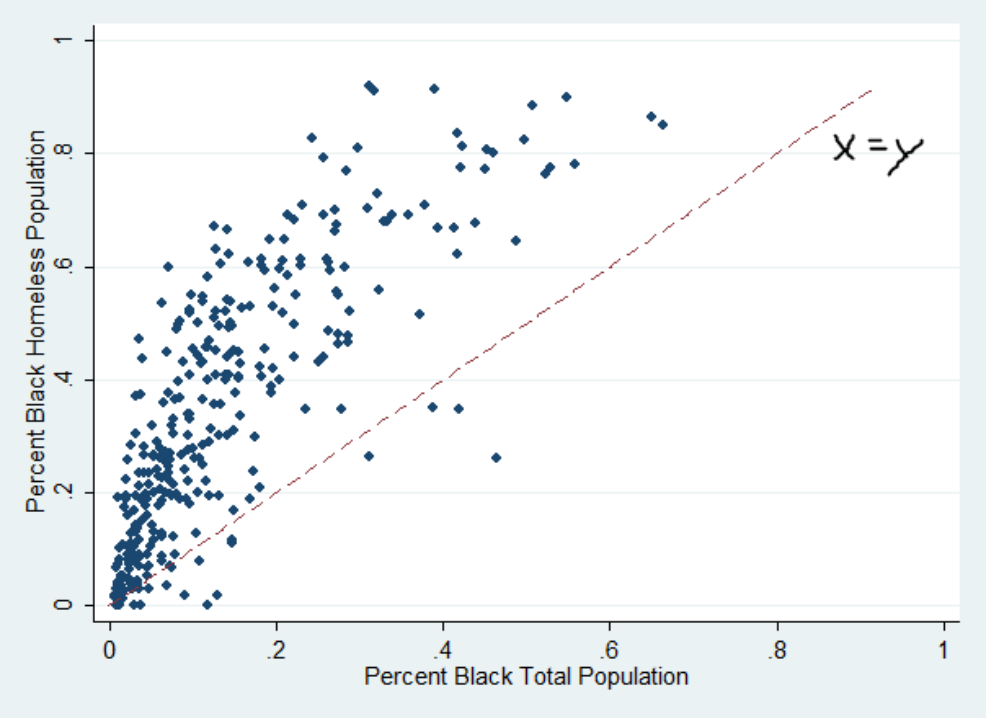

Figure 2: Percent Black in Homeless Population Compared to Percent Black in Total Population

Table 17: Correlation Matrix for HUD AHAR Data, USA, 2009

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1)	Net Percent Black (Homeless Pop - Total Population)	1.0000						
(2)	Logged Population	0.3236***	1.0000					
(3)	Percent Urbanized	0.3905***	0.8317***	1.0000				
(4)	Black-White Dissimilarity Index (Evenness)	0.4836***	0.4195***	0.3560***	1.0000			
(5)	Black-White Isolation Index (Exposure)	0.5438***	0.3995***	0.4414***	0.7673***	1.0000		
(6)	Black-White Delta Index (Concentration)	-0.0316	0.2173***	0.2166***	0.1362**	-0.1701***	1.0000	
(7)	Concentrated Poverty	0.1638**	0.1023*	0.1581**	0.3414***	0.4482***	0.0466	1.0000

*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Table 18: OLS Models of Segregation and Concentrated Poverty on the Net Percent of the Percent Black in the Homeless Population Compared to the Percent Black in the Total Population by
Continua of Care Reported as Standardized Coefficients: 2009

	(1)	(2)	(3)	(4)	(5)	(6)
Percent of Population Living in Urban Area	0.0576***	0.0406***	0.0297***	0.0578***	0.0564***	0.0330***
	(0.00528)	(0.00653)	(0.00623)	(0.00533)	(0.00673)	(0.00692)
Region - West (reference group)						
Region - Midwest	0.171***	0.113***	0.111***	0.170***	0.171***	0.129***
	(0.0203)	(0.0221)	(0.0190)	(0.0213)	(0.0202)	(0.0238)
Region - South	0.134***	0.0884***	0.0473*	0.131***	0.134***	0.0585*
	(0.0190)	(0.0220)	(0.0206)	(0.0231)	(0.0189)	(0.0237)
Region - Northeast	0.130***	0.0709**	0.0785***	0.128***	0.129***	0.103***
	(0.0216)	(0.0254)	(0.0206)	(0.0225)	(0.0217)	(0.0263)
Black - White Dissimilarity		0.0295***				-0.0157
		(0.00687)				(0.0107)
Black - White Isolation			0.0480***			0.0651***
			(0.00733)			(0.0118)
Black - White Concentration				-0.00189		0.0112
				(0.00672)		(0.00721)
Percent Living in Concentrated Poverty					0.00254	-0.0108
					(0.00783)	(0.00752)
Constant	0.00737	0.0451**	0.0660***	0.00982	0.00659	0.0555**
	(0.0152)	(0.0170)	(0.0157)	(0.0180)	(0.0152)	(0.0190)
Observations	319	319	319	319	319	319
R-squared	0.268	0.313	0.371	0.269	0.269	0.382

Robust *S.E.* in parentheses
*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

CHAPTER 5

CONCLUSIONS, FUTURE RESEARCH, AND POLICY IMPLICATIONS

Housing is considered a social determinant of health and is becoming a priority for health policy at the national level (IOM, 1988). Housing instability and homelessness have important consequences for the long-term development of children and families as well as consequences for cities and states as they grapple with family homelessness, a phenomenon that has been on the rise since the 1980s. In this dissertation, I explored racial disparities and place effects for housing instability and homelessness in the U.S., primarily for mothers with young children.

Summary of Findings

In Chapter 2, I analyzed the extent to which a Black-White disparity existed for housing instability and homelessness and the underlying mechanisms that would explain this disparity, including social support, health, quality of relationships with significant others, and incarceration. Black mothers are clearly more disadvantaged and were significantly more likely to double-up and experience literal homelessness than White mothers. Therefore, while they have similar odds of moving or losing their housing, Black mothers are less likely to regain independent housing following a move or eviction than are White mothers. Elevated risk for doubling-up for Black mothers was completely explained by individual characteristics, largely differences in homeownership. Elevated risk for homelessness for

Black mothers was somewhat explained by individual and neighborhood characteristics, many of which can be broadly categorized as socioeconomic and demographic characteristics. Finally, living in a segregated neighborhood was associated with lower risk for homelessness, while neighborhood poverty was associated with an increase to one's risk for homelessness.

In Chapter 3, I analyzed the extent to which neighborhood concentrated poverty and neighborhood Black segregation influenced the risk of housing instability and homelessness over and above individual socioeconomic and demographic characteristics. In addition to the direct effects of neighborhood factors, I explored the indirect effects of neighborhood through other individual level characteristics. These characteristics include, health, social support, relationships with current partners, and jail time. First, both concentrated poverty and segregation have *direct* effects on HHI. Specifically, concentrated poverty correlates to an increased likelihood of homelessness but a decreased likelihood for moving frequently. Neighborhood segregation is only directly related to homelessness among the measures of HHI and is associated with lower odds of this event. There is evidence for *indirect* neighborhood effects operating for frequent moves and homelessness outcomes. Indirect effects were evident for health, relationship quality, and jail time for both frequent moves and homelessness, thus demonstrating the importance of neighborhood context for HHI. Finally, my study finds the experience of Black and White mothers differ when living in poorer or segregated communities. Black neighborhoods, for Black mothers, are associated with lower odds of frequent moves and homelessness compared to White mothers.

In Chapter 4, I focus squarely on homelessness. Here, I attempt to contribute to the homelessness literature by conducting two studies. The first sought to examine the effects of race and neighborhood poverty and segregation for homelessness among those who are

unstably housed, while the second attempted to determine whether community-level segregation and poverty contribute to the disproportionate number of African Americans in the homeless population across the U.S. In the first study, I find, consistent with other research, that frequent moves, evictions and doubling-up greatly increased the likelihood of homelessness for mothers in the FFCW survey. Regarding race effects in this restricted sample of unstably housed mothers, socioeconomic and demographic factors remain important, but neighborhood segregation is no longer significant. Examining neighborhood-level effects for unstably housed mothers on homelessness, I find neighborhood segregation is not significant by itself for homelessness, though it does interact with mothers' race in a similar pattern to the overall FFCW sample, in which Black neighborhoods are associated with risk for White mothers and safety for Black mothers. Concentrated neighborhood poverty is still associated with greater risk for homelessness, but its effects do not differ by race. Lastly, risk factors White mothers and Black mothers, analyzed separately, reveal several differences for homelessness, where socioeconomic characteristics matter for Black mothers, while health and social support matter for White mothers. In sum, neighborhoods matter for both Black mothers and White mothers.

In the second study included in Chapter 4, I examined the ecological relationship between concentrated poverty and segregation and the disproportionate rate of homelessness for Blacks. Here, the net percent of Black persons in the homeless population is on average 20% higher than the percentage of Blacks in the total population. Racial segregation, as measured by the Black-White isolation, significantly contributes to this disparity. Other segregation measures of dissimilarity and concentration as well as concentrated poverty are not significant when combined to explain disproportionate number of Blacks experiencing homelessness.

Findings from both studies in Chapter 4 seem to suggest different effects for segregation. According to my multilevel study, for individuals, living in a Black community lowers the risk of homelessness for Black mothers, whereas, according to my ecological study, higher levels of Black- White segregation are associated with greater numbers of Black persons in the homeless population. Are Black communities therefore protective or harmful for Black persons in terms of experiencing homelessness? My ecological study is not able to place Black persons in any particular neighborhood within the Continua of Care (or collection of counties), and therefore the results could be an ecological fallacy, where the results derived from the community-level would not necessarily apply to individual level experiences. Most likely institutional racism in housing, employment, criminal justice, education, and other sectors creates segregated communities at the same time that it puts African Americans disproportionately at risk of experiencing homelessness, regardless of where they live.

Discussion

Overall, my study demonstrates that race and place matter for housing instability and homelessness. In terms of race effects, being Black increases one's risk for doubling-up and homelessness. This is seen at the individual level in a community-based survey and is overwhelmingly evidenced by the numerous surveys and censuses of homeless populations in the U.S. and is consistent with a myriad of other health and wellbeing outcomes. However, Black mothers were not more likely to move frequently or to be evicted from housing. It could be more difficult for Black families to regain housing than White families once a family has left housing.

Recently, more research has explored the effects of place for a variety of outcomes. Place effects, specifically the effects of neighborhood characteristics, have not been assessed

for HHI outcomes. Neighborhood environments and the degree of segregation overall both demonstrate an effect. Black segregation has declined somewhat in recent decades, though African Americans are still the most segregated racial group in the U.S. (Logan & Stults, 2011; Logan et al., 2004). In addition, more households live in areas with concentrated poverty (Bishaw, 2014). Both concentrated poverty and racial segregation have been linked to several adverse outcomes, particularly for African Americans (Williams & Collins, 2001). Indeed, Massey and Denton (1993) consider racial segregation to be the "missing link" in many respects to the poor outcomes of African Americans in the U.S. I discovered that living in a majority Black neighborhood was associated with lower risk of homelessness for Black mothers and a greater risk for White mothers. Segregation has been found to be protective for other outcomes, specifically health, due to the social supports existing in segregated communities (Inagami et al., 2006). However, when assessing from an ecological perspective, I found that racial segregation at the community level, specifically Black isolation from Whites, is correlated with higher proportions of Blacks in the homelessness population over and above the proportion in the total population. While correlation should not be confused with causation, it does point out the need to assess the effects of place at multiple levels, as these findings would each suggest a different course of action.

Several forms of discrimination exist that make quality housing and neighborhoods more elusive to African Americans. I theorized several pathways that may contribute to poorer housing and explain the effects of race and place. Of these, several were significant for explaining race or place effects, but none operate consistently across all measures of HHI. Finally, risk factors associated with homelessness were different for Black and White mothers. Socioeconomic factors were important for Black mothers, while social support and health were important for White mothers. This suggests that the housing attainment

experience for Blacks and White s is very different, and therefore future policy and research efforts should take these differences into consideration.

Study Limitations and Future Research

There are several limitations in my study that suggest future avenues of research. First, homelessness is a rare event and very few White mothers report this outcome, making it difficult to explore race effects for this particular measure. The majority of studies on homelessness rely on single night counts, which do not have the ability to capture persons experiencing homelessness throughout the year. The majority of persons experiencing homelessness are homeless only for a short time and therefore are often missed with this methodological approach for estimating the population size (Culhane, Dejowski, Ibañez, Needham, & Macchia, 1994). Therefore, it would be useful to include measures of housing instability and homelessness in surveillance surveys that are used to monitor housing and health. Also, larger population surveys that capture literal homelessness as an outcome, as in the FFCW, would help to inform the precipitating factors that contribute to this outcome as well as other forms of housing instability. One advantage of FFCW for homelessness research is that it uses questions that closely mirror federally defined definitions of homelessness used for eligibility purposes, making the survey very useful for informing public policy.

Second, I chose to focus on Black-White differences. However, other racial and ethnic groups would be important to explore. For instance, there is evidence that Latinos are underrepresented in the homeless population and that American Indians are overrepresented (Lee et al., 2010). These racial disparities closely mirror health disparities outcomes. The racial disparities in health literature could benefit from exploring whether housing instability contributes to the remaining unexplained differences in outcomes by race. African

Americans were disproportionately sampled in the FFCW survey. To correct for this, I used weights, which increased the effect size for race. Surveys with proportionate population sampling may find different outcomes in terms of magnitude. Third, based on how the FFCW survey is designed, I decided to explore mothers only and not include fathers. It would be difficult to parse through the housing arrangements of mothers and fathers in this study. However, the experience of men and fathers is very important in terms of housing outcomes and should be explored. Finally, the results of my study should not be generalized beyond the 20 cities where this survey took place. These cities are large urban areas across the country. It is in these settings where homelessness is most prominent.

Policy Implications

This study emphasizes the importance of community-based interventions and consideration for racial inequalities in housing instability and homelessness. Black-White disparities in HHI are further highlighted in my study and are influenced by neighborhood poverty and segregation both directly and indirectly. Therefore, policy and program interventions should include neighborhood environments in their calculus. There are two general community-based approaches to promote racial equality. The first is to relocate households from poor or segregated communities into higher income and less segregated areas and the second is to invest in poorer communities without requiring people to move. The Moving to Opportunity (MTO) and the Gautreaux Project provide housing supports to relocate individuals out of poor or segregated neighborhoods. These programs have been explored via quasiexperimental studies, which have found positive outcomes for relocated persons in terms of health (Kramer & Hogue, 2009). However, they are not entirely successful at moving people into better neighborhoods, as barriers to housing persist, pointing to the importance of multiple approaches to alleviate spatial inequalities (Sharkey,

2013).

My study suggests some advantage to segregated communities for protecting Black mothers from literal homelessness. Therefore, further investments in these communities can help to alleviate the disadvantages while maintaining the community aspects that create a social safety net and maintain the availability of affordable and accessible housing for households making life transitions. Furthermore, apart from community-based programs, targeting for homeless prevention programs should consider the dimension of race. As my study points out, African Americans not only have a much greater risk of homelessness than do Whites, but also the characteristics associated with homelessness differ between the two groups. Programs and policies should prioritize the needs of this group by increasing affordable housing and removing existing barriers to housing such as discriminatory practices.

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