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The Impact of Victimization on Residential Mobility: Explaining Racial and Ethnic Patterns Using the National Crime Victimization Survey

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ABSTRACT

Criminal victimization is known to influence decisions to move, but theories suggest that the processes leading to a moving decision may vary across racial and ethnic groups depending on household socioeconomic characteristics as well as housing market conditions. This study used a longitudinal sample of 34,134 housing units compiled from the National Crime Victimization Survey for the forty largest metropolitan areas in the United States (1995–2003) to study racial/ethnic differences in household moving behavior after victimization.

Specifically, the hypotheses of the study were: (1) Black and Hispanic victims would be less likely than Whites to move, and this would remain true even after being controlled for other measured household characteristics because it is unlikely that the data would be able to capture all socioeconomic and structural obstacles that minorities face in their housing search process; (2) racial/ethnic residential segregation may reduce the impact of victimization on moving for Black and Hispanic households, and the moderating effect of residential segregation may be particularly strong for Blacks since they experience the most severe segregation, and (3) in addition to the number of victimizations, victim injury and property loss may further increase the risk of moving for crime victims, and because the levels of victim injury and property loss vary across racial and ethnic groups, it is important to consider how these factors may contribute to racial/ethnic differences in moving after victimization.

Multilevel discrete-time hazard models were used for the analyses. The results provided partial support for the hypotheses, but they also showed that the link between victimization and mobility is more complex than expected. Specifically, I find that victimization is less strongly associated with moving among Blacks and Hispanics than it is with moving among Whites. In special circumstances, however, victimization can significantly increase the chances of moving

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for minority residents, and this is especially the case for Black households after a property loss. Their moving behavior also is related to market conditions, as residential segregation will reduce opportunities for minority residents, Blacks in particular, to move after victimization. For Hispanics, the analysis of the victimization-mobility relationship yielded estimates with relatively large standard errors, and this suggests the need for larger samples and the need for consideration of the sub-group diversity among Hispanics. The findings have important implications for research and policy development, and they extend how we think about racial/ethnic disparities in the link between crime and mobility.

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EXECUTIVE SUMMARY

Previous research on the link between crime and residential mobility has raised an important question not yet addressed in the literature: After experiencing violence or property victimization, do households in different racial and ethnic groups make different moving decisions? Because crime has implications for residential transition and sustainability issues, the link between crime and mobility and the potential racial and ethnic variation in mobility decision making are of great importance not only for academics but also for policymakers and practitioners in a wide range of areas including criminal justice, victim services, housing, and urban and regional development.

The purpose of this project was to use secondary data sources — a longitudinal data set created from the National Crime Victimization Survey (NCVS) Metropolitan Statistical Area (MSA) data and US census data — to study the impact of victimization on residential mobility. There were two major goals of the research. The first goal was to evaluate theories that suggest that racial and ethnic differences in socioeconomic status and housing-market conditions may cause differences between racial and ethnic groups in their tendency to move after victimization. The second goal was to use the characteristics of crime incidents (such as injury and property loss) that are available in the NCVS data to estimate the influence of these factors on group differences in their decisions to move after victimization.

More specifically, after reviewing the literature and empirical research, this project identified the following three sets of issues and hypotheses for the analysis. First, the study simultaneously considered the effects of human capital variables and metropolitan housing markets on racial/ethnic differences in victimization-related mobility. I expected that Black and Hispanic victims would be less likely than Whites to move, and that this would remain true even

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after including control variables since it is unlikely that the data would be able to capture all socioeconomic and structural obstacles that minorities face in their housing search process. The unmeasured barriers would be reflected in the remaining group differences in mobility.

Second, existing theories suggest that metropolitan-area characteristics, especially racial segmentation in housing markets, can influence mobility decisions. I therefore expected that the impact of victimization on mobility would vary across metropolitan areas depending on market conditions. Larger racial/ethnic gaps in victim mobility should be observed in metropolitan areas with greater residential segregation. This implies that segregation would moderate the relationship between victimization and mobility, curtailing opportunities for Blacks and Hispanics to move. The interaction between victimization and market conditions may be particularly strong for Blacks, since they experience the most severe segregation.

Third, the project took advantage of the detailed information that the NCVS provides on crime victimizations. Existing studies have analyzed the effects of overall counts or rates of crime on moving. These studies have not considered, however, the differential impacts of the specific forms of harm that victimization may cause.

The absence of previous attention to the characteristics of victimization probably results in part from a lack of data, since police-recorded crime rates in their aggregate forms do not describe the details of each incident. In addition, the issue is challenging to study because factors such as injury and property loss may have multiple and even offsetting effects. Injury and property loss may lead to higher mobility rates because they generate greater fear or because some victims can no longer afford to reside in their homes. Yet physical injury and loss of property may also reduce the chances of moving, at least temporarily, by creating difficulties that force victims to stay where they are. The detail in the NCVS allows study of differences in crime

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characteristics across racial/ethnic groups, and of how these differences influence household mobility.

Methodology

I created a longitudinal data set using the NCVS MSA database archived at the Inter-University Consortium for Political and Social Research (ICPSR). The NCVS collects information on nonfatal violence and property crimes reported and not reported to the police against persons 12 years of age or older from a nationally representative sample of U.S. households. Each sample unit remains in the NCVS for three years, allowing the matching of household records over time in order to study the effect of victimization on moving.

Because the national public-use NCVS files do not include geographic identifiers except for census regions, the Census Bureau and Bureau of Justice Statistics created the separate NCVS MSA files to allow study of victimization in the nation's forty largest metropolitan areas. The longitudinal data created for this project contain household records over time for a sample of housing units located in the 40 largest metropolitan areas for the period covering 1995 through 2003 ($N = 34,134$). I structured the data so that each interview period for each household was a separate observation (also called a household-period). A sample unit was removed from the sample when a residential move was observed, which gave a total of 132,785 household-periods for the analysis (a similar procedure was used in previous NCVS studies by Dugan, 1999, and Xie and McDowall, 2008).

I then used the MSA identifier to merge the NCVS data with census data to measure the characteristics of MSA housing markets. Overall, for each household-period, I used a dichotomous indicator to measure the occurrence of a residential move (1 = the household had moved by the next interview, 0 = no). I also used victimization counts and measures of victim

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injury and property loss, household race/ethnicity, other household characteristics relevant for moving, and MSA housing market conditions to test the hypotheses that predict racial/ethnic differences in the effects of victimization on mobility decisions.

For the analysis, I used multilevel discrete-time hazard models as described by Barber, Murphy, Axinn, and Maples (2000). These models have been previously used to study victims' moving decisions in the pre-redesigned NCVS data (see Xie and McDowall, 2008). This study differed from previous analyses in that it allowed the effects of victimization on mobility to vary across MSAs according to the housing market conditions. Corresponding to the research questions and hypotheses, the analyses were conducted in the following steps. First, I estimated a baseline model in which I pooled observations from all groups in order to gauge the extent of racial/ethnic differences in mobility levels. Second, I separately analyzed Whites, Blacks, and Hispanics with the combined purposes of understanding how the effects of victimization on mobility may differ by race/ethnicity and of understanding how the characteristics of MSAs, particularly their levels of residential segregation, may influence the nature of the victimization-mobility relationship. Finally, for all models, I compared victimization counts with specific characteristics of victim injury and property loss. All models were estimated with household weights to adjust for sample design and survey nonresponse.

Key Findings

- Victimization is more strongly associated with moving among Whites than it is with moving among Blacks and Hispanics. Both the number of violent victimizations and the number of property victimizations predict a higher probability of moving for White households. For Blacks and Hispanics, however, the effects are largely statistically insignificant with only one exception in which I found a positive and statistically

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significant relationship between property victimization and residential mobility for Black households, which is not predicted by theory.

- Among Whites, their mobility is most strongly linked to the number of violent victimizations, followed by the number of property victimizations, whereas the extent of victim injuries and property loss shows no additional effect on residential mobility. It is possible that this pattern occurs because victimization and the related concerns for household safety are an important consideration that motivates White households to move, and an incident does not have to result in actual injury or property loss for them to regard it seriously. Still, one should be cautious in interpreting the results because the sample has relatively limited variation in injury and property loss, which increases the standard error of the results.

- Compared with Whites, the patterns of Black and Hispanic mobility show some commonalities in the sense that they both seem to be less consistently affected by victimization in their moving decisions than are Whites. There are notable differences between them, however, and this is in part reflected by the way their mobility is related to the level of property loss in a criminal victimization. For Blacks, although their mobility is low overall relative to Whites after violent victimization, their mobility increases significantly with the number of property victimizations and with the level of property loss as measured by the ratio of total loss to income, the ratio of net loss to income, and the indicator of uninsured property loss. For Hispanics, in contrast, none of the victimization variables (whether it is the frequency of victimizations or the nature of victim injury or property loss) are associated significantly with moving, and the coefficients are estimated with relatively large standard errors.

- The difference between Blacks and Hispanics also is shown in the way they are influenced by the level of residential segregation in the housing market in the process of moving after victimization. For Blacks, residential segregation is an important moderator of the relationship between violent victimization and mobility in that even though violent victimization is not related to black mobility when averaged across all MSAs, its influence is significantly larger for Blacks living in MSAs with less segregation. Residential segregation does not seem to have this conditioning effect when a Black household is victimized by property crimes. And for Hispanic households, their level of residential segregation is not a significant moderator of the relationship between victimization and mobility, even though residential segregation has a direct effect on reducing their mobility when all other variables are held constant.

Recommendations for Future Research

Overall, the results of the study show both the importance of existing theories and their limitations. Based on previous research, I had anticipated that victimization would have a stronger effect on moving decisions for White than for Black or Hispanic households. I also had expected that the degree of neighborhood residential segregation would moderate the impact of victimization on mobility given that minority victims should be able to move more freely in less segregated areas. The findings of this project support these hypotheses to some extent, but they also indicate that the link between victimization and mobility is more complex than current theories suggest, and most importantly, we have limited understandings of the victimization-mobility relationship among Black and Hispanic households, and these should be important areas for future research.

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- For Black households, it is important for future research to understand why Black victims show a strong tendency to move after property victimization but not violent victimization. If their mobility is motivated by a desire to living in safer places, then it is puzzling why they would be less likely to move after a violent victimization. In one possibility, in at least some of the residential moves made after property victimization, the residential change may have been the result of involuntary moves due to financial difficulties rather than moves made by the motivation of achieving better housing conditions. Previous studies have found that Blacks are considerably more likely than Whites to follow a downward mobility path—for instance, instead of moving upward from poor to non-poor neighborhoods, Blacks tend to have a higher risk of moving to neighborhoods that are economically worse off. These studies suggest that we should explore in future investigations different types of mobility. Whether a residential change is the result of a voluntary or involuntary decision, whether a particular move reflects upward or downward mobility – these and other mobility patterns may all come into play to determine how one may react to victimization in making decisions on residential moves. Allowing for such different patterns should result in a more precise and nuanced picture of the victimization-mobility relationship.

- For Hispanic households, there are only a few studies in addition to this project that have investigated the effect of crime on mobility among Hispanic households, and this project suggests two important areas for consideration in future research. First, in this project, the effect of victimization on mobility is found to have a relatively large stand error in the Hispanic sample. This could reflect the relatively smaller sample size for Hispanic households, or possibly, as some evidence suggests, this could reflect the diversity among

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Hispanics in mobility patterns. After all, the term *Hispanic* covers a large group of people with diverse cultural and socioeconomic backgrounds. The literature has shown the growing importance of understanding differences within the Hispanic population, because factors such as sub-ethnic groups (e.g., Mexican Americans, Puerto Ricans, Cubans, and Hispanics from other countries), nativity, generational status, language use, skin color, and length of time in the U.S. may all contribute to disparities in mobility. Currently, existing surveys lack the data needed to sort out these differences, but if resources allow, measures of sub-ethnic group status would be useful additions to the NCVS and other data collection efforts.

- Also for Hispanics, a second area of future research is to understand the impact of residential segregation for Hispanic mobility in the event of victimization. On the one hand, Hispanic and Black segregation differs in magnitude and this difference may make Hispanic segregation less of a barrier for Hispanic mobility. On the other hand, Hispanic segregation may also differ from Black segregation in nature, since racial discrimination may have played a smaller role in the creation of Hispanic enclaves than in the formation of Black segregation (Massey and Mullan, 1984). Some segregation among Hispanics may arise from the choice to live in a co-ethnic community in order to gain advantages from the enclave labor and housing market, and this characteristic of Hispanic segregation may cause variations in the degree to which segregation becomes a barrier for the groups when they prefer to live in a safer place. In further exploring the contextual effects of segregation, future studies might incorporate information about local labor markets and population movement histories to understand how a place comes to have its residential structure. By understanding the degree as well the causes of segregation, such

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research may paint a more complete picture of individual responses to victimization than was previously available.

<u>**Recommendations for Policy and Practice**</u>

In terms of policy and practice, the results of the study have important implications for criminal justice, victim services, and housing policies, which we summarize below.

- First, residential movement, particularly when it is triggered by crime, has long been a concern of local governments because it may contribute to neighborhood decline (Taylor, 1995). This study provided additional evidence that crime victims, particularly White households, have a tendency to change residence after victimization. This finding, combined with the findings that the pattern of mobility is more complex for Black and Hispanic households and that they are more restricted in their moving behavior and are more likely to be affected by housing segregation in their ability to move after victimization, suggests a real possibility that crime may lead to an unwanted change in neighborhoods if their population loss is concentrated in just certain groups such as White households. To counter the sources of population loss, greater police protection and improved social services may be required to address the needs of victims (to counter the fear of crime, for example). Indeed, previous studies have found that being able to work with and trust the police and other community organizations increases neighborhood satisfaction (Rosenbaum, Reynolds, and Deluca, 2002). By showing *where* and *how* victimization may lead to increased probability of moving, this project helps local governments and agencies understand the importance of victim services.
- Second, the results of the study also suggest that service providers should be sensitive to the different needs of victims of different race and ethnicity. For White households, for

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example, working with these victims to understand their needs and reestablish their satisfaction with the neighborhood may be a priority for preventing unwarranted White flight. For Black victims, on the other hand, it is important to understand why their mobility behavior is differently influenced by violence and property victimizations. Property loss may create greater economic hardship for Black households because they have less social and economic support (Hogan, Eggebeen, and Clogg, 1993). And if this is the process that drives the high mobility among Black households, service providers may target services and housing assistance to those at high risk of moving, particularly if their moving is induced by involuntary reasons (such as mobility due to failure to pay rent). For Hispanic victims, still, their variation can be potentially large when it comes to the question of moving in the event of victimization. Understanding these differences can help in the design of social programs to address problems associated with housing instability.

- Finally, by linking household moving decisions to structural opportunities in the housing markets, this project helps local agencies better anticipate the problem of segregated housing. In the US, many states have used different integration measures — such as inclusionary zoning ordinances, dispersed subsidized housing, integration incentive programs, and urban transit initiatives — to ameliorate racial segregation and expand the availability of affordable housing for minority and low-income households (see a review by Orfield, 2005). These programs have met with mixed success. Because this project shows that victims' moving decision is linked to the racial segmentation of the housing market and that this relationship is particularly strong for Black households when they experience violent victimizations, this finding adds a new dimension to the complexity of

housing regulation — that is, policymakers need to take into account environmental stressors such as crime victimization in designing regulations and incentives that encourage integrated housing. These efforts will benefit not only victims but also the whole communities by preventing selective moving behavior — such as White households move at a faster pace than other households — which is a potential factor for increasing racial segregation and concentrated poverty. In the end, the goal of victim assistance is not only to prevent unwanted instability but also to ensure that those who stay obtain the help they need to enhance the quality of life. The enhancement of housing opportunities and the provision of tailored victim services need to go hand in hand to promote a vibrant community for all individuals.

INTRODUCTION

STATEMENT OF THE PROBLEM

The purpose of this project was to use secondary data sources — a longitudinal data set created from the National Crime Victimization Survey (NCVS) Metropolitan Statistical Area (MSA) data and US census data — to study the impact of victimization on residential mobility. There were two major goals of the research. The first goal was to evaluate theories that suggest that racial and ethnic differences in socioeconomic status and housing-market conditions may cause differences between racial and ethnic groups in their tendency to move after victimization. The second goal was to use the characteristics of crime incidents (such as injury and property loss) that are available in the NCVS data to estimate the influence of these factors on group differences in their decisions to move after victimization.

These goals are important for theory and practice. First, moving is an important cost of victimization that is less readily measurable than monetary costs such as stolen properties and medical expenses. Because moving may produce financial and emotional stress and also disrupt social relations, the moving decision of victims needs to be investigated fully from a comparative perspective as theory would suggest. In the US, the relative risk of victimization varies by race and ethnicity (Dugan and Apel, 2003; Lauritsen and White, 2001; Rennison, 2001; Truman, 2011). The experiences of Blacks and Hispanics need special attention because they are disproportionately affected by crime and because they may rely on different resources when responding to victimization. By comparing Whites, Blacks, and Hispanics, this project gives a clearer view of the costs of victimization for the US population.

Second, and from the point of view of policy development, the results of the study are useful for local governments and community organizations in their efforts to assist victims by

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informing us how individual, market, and crime-level characteristics may help shape victims'

moving behavior. In the previous research, the NCVS data have been used mainly to show the

average effect of victimization on moving decisions across all geographic areas nationwide (see,

e.g., Dugan, 1999; Xie and McDowall, 2008). This project took advantage of the geographic

variation in the NCVS MSA data to examine variation in the effects of victimization on moving.

Because the data are more recent (1995–2003) than those used in previous NCVS studies

(1980s), the results are of particular relevance for planning purposes.

I begin my report with a review of theoretical and empirical work on crime and mobility.

Next, I present a set of research questions and hypotheses that I used to guide the analyses. I then

describe the data and analytical procedures that I used. After presenting the results, I conclude by

considering the implications of the findings for current understandings, for policy and practice,

and for future research.

LITERATURE REVIEW

A Not-so-simple Question: Adding Race/Ethnicity to the Victimization-Moving Relationship

In the United States, much evidence shows that persons who have been victimized by a

crime in their neighborhood move more frequently than do their non-victim peers (Dugan, 1999;

Xie and McDowall, 2008). Many researchers have proposed that this relationship exists in part

because of victims' desire to live in a safer area (Katz, Kling, and Liebman, 1999; Pettit, 2004;

Skogan, 1990). In related studies, victimization and concerns for family safety have also been

shown to have a negative influence on satisfaction with residential environments (Austin, Furr,

and Spine, 2002; Cook, 1988; Hipp, 2009; Lee, 1981).

Given that moving can be used to lower the risk of crime, the finding that victimization increases mobility may hardly seem surprising. A puzzle in interpreting this relationship, however, is research indicating that not all groups share the same mobility behavior when faced with crime problems. Scholars have suspected in particular that racial/ethnic group membership is important in the locational process (South and Deane, 1993). Studies show that minority groups tend to live in places with higher crime rates (Alba, Logan, and Bellair, 1994; Logan and Stults, 1999), and these differences hold even after controlling for group socioeconomic characteristics (Alba, Logan, and Bellair, 1994).

Using longitudinal data, a series of studies has demonstrated racial differences in mobility more clearly by observing that areas with high crime rates tend to disproportionately lose their White populations (Liska and Bellair, 1995; Liska, Logan, and Bellair, 1998; Morenoff and Sampson, 1997). Hipp (2010) extended these results by showing that Whites change residences more frequently in response to crime perceptions than do Blacks and Hispanics. Given these findings, it is reasonable to speculate that the relationship between individual victimization and mobility may be similarly group-specific. A critical question then is to understand the sources and the specific nature of racial/ethnic disparities in the victimization-moving relationship.

Existing Theories: Why do Racial/Ethnic Disparities Develop?

Drawing on two theories—spatial assimilation theory and place stratification theory—victimization could have divergent effects on moving for reasons that are both socioeconomic and structural in nature. Spatial assimilation theory suggests that socioeconomic status is a major factor explaining differences in residential movement across racial/ethnic groups (Alba and Nee,

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2003; Massey and Denton, 1985). According to this theory, housing options available to Blacks and Hispanics are likely to be limited because they have fewer financial assets. Safer neighborhoods have higher housing values (Ihlanfeldt and Mayock, 2010; Tita, Petras, and Greenbaum, 2006), and moving to these neighborhoods requires resources that many victims, minorities in particular, may not possess. Victims with limited means may therefore stay where they are, and this in turn will result in racial/ethnic differences in the relationship between victimization and mobility.

Socioeconomic factors aside, researchers also have considered structural reasons for racial/ethnic disparities in residential mobility. These include in particular how the racial segmentation of housing markets may shape the way households make moving decisions. According to place stratification theory (Alba and Logan, 1991), members of minority groups face many structural barriers in their residential search. Among these is the continuing existence of discrimination from real estate agents (Turner et al., 2002), mortgage lenders (Ross and Yinger, 2002), insurance companies (Squires and Chadwick, 2006), and other housing market actors (Roscigno, Karafin, and Tester, 2009; Squires and Kubrin, 2006).

Through field audits, researchers have documented discrimination against Blacks and Hispanics in both sales and rental markets (see a review by Quillian, 2006). Studies also have shown that despite increasingly tolerant attitudes, negative racial and ethnic stereotypes continue to exist. These lead people to overestimate crime rates in areas with more Black residents (Quillian and Pager, 2001) and to perceive higher levels of neighborhood disorder as Black and Hispanic concentrations increase (Sampson and Raudenbush, 2004).

Because of stereotypical attitudes and discriminatory practices, Blacks and Hispanics may have difficulties achieving their housing goals even when they possess the necessary

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economic resources. Under such circumstances, the association between victimization and mobility may be weaker for minority residents than for Whites even after controlling for socioeconomic attainments. Hence, a comprehensive model of the victimization-moving relationship should include consideration of the market factors beyond household-level socioeconomic conditions.

Studying Market Structures: Residential Segregation

In understanding the role of market structures in mobility decisions, I am most interested in racial/ethnic residential segregation because it is a key feature of local housing markets that contributes to inequitable outcomes (Krivo, 1995: 602). South and Deane (1993), in studying the moving behavior of U.S. metropolitan residents, found that living in areas with higher segregation was associated with less overall mobility for both Blacks and Whites. The association was stronger for Blacks, however, and this suggests that segregation was more of an impediment to Black than to White mobility.

Consistent with South and Deane's (1993) work, other studies have reported that residential segregation is associated with a lower probability that Black households will be able to leave neighborhoods with high socioeconomic disadvantage (South and Crowder, 1997; South, Pais, and Crowder, 2011). Thus, because segregation limits the housing choices of Black households, those who seek to change residence to avoid crime may find it difficult to locate safe homes in more segregated housing markets.

Beyond the studies of the Black population, little empirical work is available to guide a hypothesis about how residential segregation may function to influence the relationship between victimization and moving among Hispanics. When South and Messner (2000) published their

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landmark review of research on crime and mobility, only one of the twenty-three studies they considered had examined Hispanics' exposure to crime (Alba, Logan, and Bellair, 1994). The other research, spanning the period from the 1970s to the 1990s, focused primarily on Blacks and Whites, partially because of the lack of ethnicity data.

Now, a decade later, a new interest has developed in the role of crime in Hispanic mobility. Hipp (2010) found that the association between crime perceptions and the probability of neighborhood change is weak for Hispanic households, mirroring the experience of Blacks. Thus, like Blacks, Hispanics may have a reduced ability to leave unsafe neighborhoods because of their limited economic resources and housing options (Hipp, 2010: 711).

Yet despite the similarities, differences also likely exist between Blacks and Hispanics in their post-victimization mobility. The two groups face different levels of residential segregation, with Blacks being more segregated from Whites than are Hispanics (Logan and Stults, 2011). Black segregation has been slowly declining since 1980, however, while Hispanic segregation has been rising. In areas with large growth in Hispanic populations in particular, the increase in Hispanic segregation has been more prominent (Lichter et al., 2010).

Fear and ethnic animosity are in part responsible for the development of Hispanic segregation (see, e.g., Donato, Stainback, and Bankston, 2005; Fennelly, 2008). Perhaps equally important, however, studies have emphasized the role of migrant networks and labor demand in directing Hispanic flows to co-ethnic communities. These communities can be attractive because residents can rely on family and friendship ties to acquire better economic opportunities (Curran and Rivero-Fuentes, 2003; Portes and Rumbaut, 2006).

Because the formation of Hispanic communities (or enclaves) may facilitate the economic and social adaptation of their residents, the segregation of Hispanics may reflect, at

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least in part, the voluntary housing choices of Hispanics rather than overt discrimination (Allen and Turner, 2009; Charles, 2003). Such patterns may create differences in the way that Blacks and Hispanics are affected by segregation in their moving decisions. The more thoroughly discriminatory nature of Black segregation may make it a bigger barrier for mobility than is segregation among Hispanics. The victimization literature has not previously studied these contextual factors, and a closer look at them should be helpful in understanding crime-related mobility differences between these groups.

RESEARCH QUESTIONS AND HYPOTHESES

Building on the theories and research discussed above, my project was guided by the following goals and hypotheses. First, I simultaneously considered the effects of human capital variables and metropolitan housing markets on racial/ethnic differences in victimization-related mobility. I expected that Black and Hispanic victims would be less likely than Whites to move. This would remain true even after including control variables, since it is unlikely that the data would be able to capture all socioeconomic and structural obstacles that minorities face in their housing search process. The unmeasured barriers would be reflected in the remaining group differences in mobility.

Second, existing theories suggest that metropolitan-area characteristics, especially racial segmentation in housing markets, can influence mobility decisions. I therefore expected that the impact of victimization on mobility would vary across metropolitan areas depending on market conditions. Larger racial/ethnic gaps in victim mobility should be observed in metropolitan areas with greater residential segregation. This implies that segregation would moderate the relationship between victimization and mobility, curtailing opportunities for Blacks and

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Hispanics to move. The interaction between victimization and market conditions may be particularly strong for Blacks, since they experience the most severe segregation.

Lastly, my investigation took advantage of the detailed information that the NCVS provides on crime victimizations. Existing studies have analyzed the effects of overall counts or rates of crime on moving. These studies have not considered, however, the differential impacts of the specific forms of harm that victimization may cause.

The absence of previous attention to the characteristics of victimization probably results in part from a lack of data, since police-recorded crime rates in their aggregate forms do not describe the details of each incident. In addition, the issue is challenging to study because factors such as injury and property loss may have multiple and even offsetting effects. Injury and property loss may lead to higher mobility rates because they generate greater fear or because some victims can no longer afford to reside in their homes. Yet physical injury and loss of property may also reduce the chances of moving, at least temporarily, by creating difficulties that force victims to stay where they are. The detail in the NCVS allows study of differences in crime characteristics across racial/ethnic groups, and of how these differences influence household mobility.

METHODOLOGY

The NCVS MSA Longitudinal Data (1995-2003)

The data were drawn from the NCVS MSA files for the period covering 1995 through 2003 (U.S. Department of Justice, 2007). The NCVS is the primary source of information on criminal victimization within the United States. It uses a stratified multistage cluster sample of the nation's residential addresses; sample housing units remain in the survey for three years.

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Within the sample households, residents aged 12 years and older are interviewed at six-month intervals. The respondents provide information about their victimization experiences as well as household background information.

The national public-use NCVS files do not include geographic identifiers except for census regions. The Census Bureau and Bureau of Justice Statistics have generated the separate NCVS MSA files to allow study of victimization in the nation's forty largest metropolitan areas. Lauritsen and Schaum (2005) provide a detailed description of the NCVS MSA files and of their structure and content.

The MSA sample represents approximately 40% of the U.S. population. About 34% of Whites, 50% of Blacks, and 60% of Hispanics lived in the MSAs during the study period, making the data a good source for studying racial/ethnic differences in victimization and mobility. Appendix 1 shows a map and a list of names of the MSAs.

For this study, I created a longitudinal file matching household records across time using link variables provided by the Census Bureau.[1] The sample contained records for 34,134 housing units. Approximately 71% of sample households were White, 15% were Black, and 14% were Hispanic. Each interview of a household constituted a "household-period." Together, 132,785 household-periods were available for the analyses.

Measures

Household mobility

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[1] The household records were obtained from NCVS samples J19 and J20. Household records prior to 1995 were not used because the data could not be matched. The sample excluded 3.5% of sample units that were mobile homes, living quarters in hotels or motels occupied by transient guests, and special units such as student dormitories, rooming houses, and boarding houses. The sample also excluded households of "other race" because there were too few such households.

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The dependent variable, *household mobility*, measured the occurrence of a move between successive interviews. The variable was coded "1" if a household had moved by the next interview and "0" otherwise. For each housing unit, the study followed Dugan (1999) and modeled only the moving behavior of the unit's initial household. Housing units therefore dropped out of the sample after a residential move was observed.[2] I used the following procedures to determine household moving status. First, the Census Bureau assigned a new number when a household moved and was replaced, and I coded the previous residents as movers.[3] I then used two additional variables to verify that the original household had indeed moved. *Household status* provided an independent indicator of whether the household was a replacement. *Residence duration* provided the length of time that the households had lived at the address. The residence duration of the replacement household should have been less than the time the unit had been in the sample if a move had occurred.

The moving status of households was less readily determined when NCVS interviewers failed to obtain interviews. In some cases, the NCVS discontinued interviews after sample units became vacant or demolished, were converted to nonresidential use, or were otherwise ineligible for inclusion. Households that had lived at these units were coded as movers. When a non-interview occurred because of respondent refusal, if a follow-up interview was conducted, I determined the moving status of the household by using information from the follow-up

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[2] The use of initial households simplified the analysis because each housing unit contributed no more than one event of interest, that is, moving. If one wished to examine the moving decisions of successive households, the statistical models presented in this study would need to be modified to account for the correlation among the multiple events within the same housing units. (See Goldstein, Pan, and Bynner, 2004, for an example of how to handle repeated events using a three-level model.)

[3] Although it is possible that a new household moved in because members of a previous household all passed away, this study assumed that the number of such deaths was small relative to that of residential moves and that these events would not affect the results reported in this study. (See Dugan, 1999: 909 for a similar discussion of this issue.)

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interview. Otherwise, the moving status of the household was coded as missing (2.6% of observations in the sample).

Victimization variables

Two sets of victimization variables were used to measure the frequency and the nature of victimizations. First, I counted the number of victimizations for each household during the six-month reference period by crime type, whether violent or property. Violent crimes included rape, assault, sexual assault, and robbery. Property crimes included burglary, motor vehicle theft, and larceny. Because the preliminary analyses showed that nearby crimes (crimes within the home or a one-mile radius) were most influential in determining mobility outcomes, I only included nearby offenses in the final analyses. Series crimes (defined by the NCVS as ones in which victims experienced six or more incidents of the same type, but could not recall enough details to report them separately) were counted as one incident (2% of incidents in the sample). Additional analyses that counted each series as six incidents or as the number of incidents reported by respondents did not change the results.

Second, in addition to crime counts, I examined the nature of victimization by the extent of injury and property loss. My analysis (see Table 1) of a total of 20,034 incidents (which, when weighted, represented approximately 11 million violent crimes and 35 million property crimes) showed clear racial/ethnic differences in the nature of victimization that would not have been captured by incident counts. The table showed, for example, that Blacks and Hispanics were more likely than Whites to experience injury, to have a high ratio of property loss to income, and to lack insurance coverage for their property loss.

Table 1. Characteristics of Crime Incidents by Victim Race and Ethnicity

	Violent Crime			Property Crime							Insurance
	Victim Injury			Total Property Loss				Net Property Loss (lost property less recovered property)			
Victim Race/ethnicity	None	Minor	Serious	Dollar Value		Ratio of Loss to Income		Dollar value		Ratio of Loss to Income		Property loss was not covered by insurance
	%	%	%	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	%
Blacks	74 *	14	13 *	$799	(2914)	.05 ***	(.42)	$642	(2437)	.04 ***	(.41)	73 **
Hispanics	74 *	13	14 **	$769	(2461)	.04 ***	(.21)	$602	(1899)	.03 ***	(.21)	76 ***
Whites (reference)	78	13	10	$773	(3581)	.02	(.09)	$612	(2999)	.02	(.08)	71

Notes: Percentages may not add to 100 because of rounding. The symbol * indicates that the difference between the minority group (Blacks or Hispanics) and the reference group (Whites) is statistically significant at .05 level (*), .01 level (**), or .001 level (***). Serious injuries include broken bones, loss of teeth, internal injuries, loss of consciousness, and other undetermined injuries requiring medical treatment. Incident weights were used to account for unequal probabilities of selection and observation.

To account for these differences in offense characteristics, I supplemented the crime counts with information on injury and property loss. For each household, I used *physical injury* to indicate whether any member of the household was injured as a result of victimization during the reference period.[4] The amount of property loss in each period was measured by (1) the ratio of total property loss to income; (2) the ratio of net property loss to income; and (3) a dichotomous indicator of uninsured property loss. I coded the uninsured loss indicator "1" if the household had any property loss that was not covered by insurance and "0" if otherwise. These

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[4] In preliminary analysis, I compared serious injuries with minor ones and found no significant differences in their effects on mobility. Because it was statistically rare for a household to report more than one injury in a six-month period, *physical injury* was coded as a binary variable rather than a count variable.

variables captured different aspects of harm from lost property. I used them to obtain a more

complete understanding of mobility responses to victimization.[5]

Household-level variables

The study also considered other characteristics of the households that may influence

mobility behavior. Homeowners and long-term occupants have been shown to have a lower

likelihood of moving than do renters and short-term residents (DiPasquale and Glaeser, 1999). I

therefore included homeownership and the length of residence in the analysis. Differences in

socioeconomic status were measured by household income, education of household head, and the

employment status of adult household members (see, e.g., South and Deane, 1993; Odland and

Shumway, 1993). Because residential mobility is also conditioned by stages of the family life-

cycle (Clark and Dieleman, 1996; Crowder, 2000), the analysis controlled for the age of

household head, family size, marital status, and the presence of children.

MSA-level variables

I used two composite indicators, *Black separateness* and *Hispanic separateness*, to

measure the level of residential segregation in the MSAs. Massey and Denton (1988) have

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[5] In the NCVS, household income was coded as an ordinal variable with 14 categories from *less than $5,000* through *$75,000 or more*. To calculate the ratios of property loss to income, I followed Baumer and Lauritsen (2010) and set income to the midpoints of income categories. (The upper income category was redefined as $75,000−$100,000 and the results were not sensitive to higher threshold values, $150,000 or $200,000). Originally, in the MSA data, 13% of households had missing income information; all other variables had no or very little (<1%) missing data. Because the amount of missing data was not large, I first analyzed the data excluding households with missing income and then compared the results with those based on multiple imputations in which missing values for household income were replaced with five sets of plausible values based on variables with full information. Because the conclusions were essentially the same, this study reported the results from the complete data analysis.

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suggested that residential segregation is multifaceted and should be measured with composite

indicators. Following this advice, I used factor analysis to study the MSA indices of segregation

based on data from the 1990 and 2000 decennial censuses provided by Iceland, Weinberg, and

Steinmetz (2002).[6] The percentage of the Black (or Hispanic) population was highly correlated

with levels of segregation in the forty MSAs. Accordingly, I computed group separateness scores

(a term adopted from Johnston, Poulsen, and Forrest, 2007) as the means of standard scores for

the percentage of Black (or Hispanic) population and five indices of segregation: the

dissimilarity index, the isolation index, the correlation ratio, the absolute clustering index, and

the spatial proximity index (also see Xie, 2010). Cronbach's α of the indices was .97 for Blacks

and .96 for Hispanics. Higher scores of Black (or Hispanic) separateness indicated that Blacks

(or Hispanics) were more unevenly distributed in a few clusters and had less contact with

Whites.

Additionally, I controlled for variation in household mobility using MSA population

density (the natural logarithm of population per square mile), socioeconomic conditions, and the

availability of housing stock. Because of the high correlations among the socioeconomic

variables, an index of MSA socioeconomic disadvantage was calculated as the average of

standard scores for the percentage of the population living in poverty, median household income

in inflation-adjusted dollars (sign reversed), the percentage of the population aged 25 and older

without high school diplomas, the percentage of the civilian labor force unemployed, the

percentage of households with public assistance income, and the percentage of female-headed

households with children (Cronbach's α = .92). The percentage of housing units vacant for sale

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[6] All indices were built separately for Blacks and Hispanics, using census tracts as proxies for
neighborhoods, and non-Hispanic Whites as the reference group. Because the data were not
available annually, the index scores for 1995–1999 were estimated with linear interpolation
using the 1990 and 2000 censuses; the 2000 scores were used to proxy the scores in 2001–2003.

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or rent reflects housing availability and therefore may increase the opportunities for moving

(Lee, Oropesa, and Kanan, 1994).[7] Census region variables (Northeast, South, Midwest, and

West) were also used in the analyses to allow for regional variation in mobility patterns (see,

e.g., Clark and Mulder, 2000; Deane, 1990).

Analytical Strategy

For the analyses, I used multilevel discrete-time hazard models as described by Barber,

Murphy, Axinn, and Maples (2000). These models were essentially logistic regression models,

with the dependent variable being the binary indicator of household mobility. At the household

level, the hazard model for household i in MSA j took the form:

$$\log(\frac{h_{t+1,ij}}{1-h_{t+1,ij}}) = \alpha_{0j} + \sum_{k=1}^{K}\beta_{kj}X_{k,tij} + \sum_{t=2}^{5}a_{t}D_{tij}. \qquad (1)$$

In this equation h_{t+1} was the conditional hazard rate or probability that a household would

move in time $t+1$ given that it had not moved or exited the sample for any other reason in time t.

The intercept, α_{0j}, represented the overall level of mobility in MSA j, whereas $X_{k,tij}$ was a vector

of k household-level variables in time t, including the victimization variables that were the main

interest of the investigation. The slopes β_{k} were indexed by j because the effects of household

variables on mobility might vary by MSA. The D_{tij} denoted a sequence of dichotomous variables

designating interview periods 2 through 5. By parameterizing D_{tij} directly, the model made no

assumption about the shape of the baseline hazard function (the hazard when all independent

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[7] In preliminary analysis, I also examined housing prices in the rental and sales markets. These variables were not included in the final models because these variables were highly collinear with housing vacancy rates. Conclusions did not change when I repeated the analysis using housing prices instead of housing vacancy rates.

variables, $X_{k,tij}$, were equal to zero). Instead, the baseline hazard was allowed to change in each

time period (see Singer and Willett, 2003).

At the MSA level, the variability in β_{kj} and α_{0j} was modeled as a function of the m

characteristics of the MSAs, $W_{m,tj}$:

$$
\begin{aligned}
\beta_{kj} &= \alpha_{k0} + \sum_{m=1}^{M} \delta_m W_{m,tj} + \mu_{kj} , \\
\alpha_{0j} &= \alpha_{00} + \sum_{m=1}^{M} \gamma_m W_{m,tj} + \mu_{0j} .
\end{aligned}
\tag{2}
$$

Here the study was most interested in evaluating the degree to which the effects of

victimization on mobility (as denoted by β_{kj}) may vary according to the MSA market

conditions. Similarly, I allowed α_{0j} to vary by MSA so that the overall level of household

mobility was a function of the MSA characteristics. The μ_{kj} and μ_{0j} represented unexplained

error terms or random effects associated with the MSAs. The models assumed that the random

effects were multivariate normal with mean zero and an unknown variance-covariance matrix.

Corresponding to the research questions and hypotheses, the analyses were conducted in

several steps. First, I estimated a baseline model in which I pooled observations from all groups

in order to gauge the extent of racial/ethnic differences in mobility levels. Second, I separately

analyzed Whites, Blacks, and Hispanics with the combined purposes of understanding how the

effects of victimization on mobility may differ by race/ethnicity and of understanding how the

characteristics of MSAs, particularly their levels of residential segregation, may influence the

nature of the victimization-mobility relationship. Finally, for all models, I compared

victimization variables (victimization counts versus specific characteristics of injury and

property loss). All models were estimated with household weights to adjust for sample design and survey nonresponse (see Lohr and Liu, 1994).

RESULTS

Summary Statistics

Table 2 presents summary statistics for the study variables. Pooling all observations, 7.9% of households moved between interviews. The mobility rate was lower for Whites than for Blacks and Hispanics. This pattern was not surprising given that White households had a higher proportion of homeowners and had lived at their addresses on average for a longer period of time. Racial differences in the victimization variables were also pronounced. White households reported fewer crime incidents, were less likely to be injured, had lower ratios of property loss to income, and were less likely to have uninsured property loss. The groups differed in the MSA characteristics as well. Black (or Hispanic) households, as expected, resided in MSAs with greater Black (or Hispanic) separateness scores. Compared with Whites, Blacks and Hispanics also resided in MSAs with greater socioeconomic disadvantage. These patterns were consistent with the finding that White households reported higher levels of income and education.

Table 2. Summary Statistics for Study Variables

Variables	Total Mean	Total (SD)	Whites Mean	Whites (SD)	Blacks Mean	Blacks (SD)	Hispanics Mean	Hispanics (SD)
Household mobility	.079		.072		.097		.096	
Victimization								
N of violent victimizations	.015	(.144)	.012	(.134)	.023	(.179)	.018	(.151)
N of property victimizations	.072	(.315)	.064	(.296)	.093	(.369)	.087	(.338)
Physical injury	.003		.003		.006		.004	
Ratio of total property loss to income	.002	(.041)	.001	(.031)	.004	(.066)	.003	(.048)
Ratio of net property loss to income	.002	(.034)	.001	(.022)	.003	(.058)	.003	(.046)
Uninsured property loss	.043		.038		.056		.057	
Housing investment								
Homeowner	.670		.747		.479		.488	
Length of residence (in years)	11.152	(11.899)	11.980	(12.361)	10.130	(11.185)	7.995	(9.336)
Household SES								
Household income	10.251	(3.821)	11.017	(3.441)	8.403	(4.146)	8.426	(3.938)
Education of household head	14.003	(3.776)	14.714	(3.497)	13.151	(3.259)	11.266	(4.286)
Unemployed member	.373		.369		.358		.412	
Family development stages								
Age of household head	48.480	(16.283)	49.881	(16.426)	46.728	(15.592)	43.172	(14.996)
Family size	2.564	(1.445)	2.427	(1.324)	2.572	(1.533)	3.277	(1.716)
Married couple	.515		.553		.317		.553	
Presence of children	.152		.136		.172		.209	
MSA housing market								
Black separateness	.011	(.933)	-.062	(.940)	.394	(.785)	-.060	(.946)
Hispanic separateness	.011	(.916)	-.121	(.890)	.037	(.921)	.676	(.734)
Log population density	7.099	(.886)	7.027	(.843)	7.307	(.895)	7.225	(1.030)
Socioeconomic disadvantage	.007	(.842)	-.125	(.773)	.118	(.840)	.574	(.935)
% units vacant for sale or rent	3.168	(.970)	3.143	(.997)	3.230	(.841)	3.225	(.962)
Northeast	.201		.203		.233		.153	
South	.291		.269		.361		.324	
Midwest	.229		.250		.262		.077	
West	.279		.278		.144		.447	
Time Period								
Period 1	.261		.255		.276		.268	
Period 2	.227		.225		.235		.231	
Period 3	.200		.201		.199		.199	
Period 4	.176		.178		.169		.172	
Period 5	.136		.141		.121		.130	
N of households	34,134		24,335		5,077		4,722	
N of household-periods	132,785		96,308		18,772		17,705	

Notes: Standard deviations are only reported for continuous variables. Household weights were used to account for unequal probabilities of selection and observation.

Baseline Model Results

Table 3 presents the results of a baseline model in which I pooled data from all groups and used race/ethnicity indicators to estimate the size of overall mobility differences. This model provided a good starting point for the analysis, since it revealed several important features of household mobility in the sample. First, the results confirmed previous findings that the likelihood of moving increased with violent and property victimizations. (Note that this model included the number of victimizations, not the details of crime incidents, to be consistent with previous studies for comparison purposes.) The findings strengthened evidence of a link between victimization and mobility, as the data covered a different and more recent period than those considered in previous research (cf. Dugan, 1999; Xie and McDowall, 2008).

Second, apart from victimizations, the results in Table 3 indicate that mobility is associated with race/ethnicity and many MSA features. These include population density, housing vacancy, region, and the variable of key interest in this study, residential segregation. The negative coefficients of the Black and Hispanic variables are consistent with the view that these groups face greater difficulties in moving than do Whites with similar characteristics (South, Crowder, and Chavez, 2005a). I also found a negative association between Black segregation and mobility, but no significant relationship between mobility and Hispanic segregation. These racial/ethnic dynamics have not been explored in previous research on victimization and moving, and a closer examination of the patterns is thus warranted.

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Table 3. Baseline Model Results of Household Mobility for the Pooled Sample

Variables	Coefficient		(SE)
Victimization			
N of violent victimization	.216	***	(.061)
N of property victimization	.092	**	(.032)
Race/ethnicity			
Black	- .106	***	(.029)
Hispanic	- .121	**	(.037)
Housing Investment			
Homeowner	- 1.373	***	(.041)
Length of residence (in years)	- .018	***	(.002)
Household SES			
Household income	- .016	***	(.005)
Education of household head	.012	**	(.004)
Unemployed member	.114	***	(.023)
Family Development Stages			
Age of household head	- .022	***	(.001)
Family size	- .064	***	(.011)
Married couple	- .086	***	(.024)
Presence of children	- .225	***	(.037)
MSA housing market			
Black separateness	- .089	***	(.026)
Hispanic separateness	.034		(.031)
Log population density	- .067	*	(.033)
Socioeconomic disadvantage	- .033		(.036)
% units vacant for sale or rent	.045	***	(.022)
Northeast	- .138	*	(.062)
South	.235	***	(.050)
Midwest	.096		(.060)
Time Period			
Period 2	.030		(.035)
Period 3	- .043		(.042)
Period 4	- .028		(.036)
Period 5	- .136	**	(.042)
Intercept	- 1.913	***	(.052)

Level-2 random effect	**Variance**	χ^2
Intercept	.010 ***	97.384

-2(log-likelihood)	307722.162
LR χ^2 versus unconditional model	8150.729 ***
(d.f.)	(25)
N of households	34,134
N of household-periods	132,785

Notes: * $p<.05$, ** $p<.01$, *** $p<.001$. In this model, the estimates of the victimization coefficients did not vary significantly across MSAs. Thus the model was parsimoniously specified as a random intercept model.

Race/Ethnicity-Specific Models

The next set of models (Table 4) evaluated mobility separately for Whites, Hispanics, and Blacks. Because the estimates of the victimization coefficients did not vary significantly across MSAs for Whites and Hispanics, the coefficients for victimization counts were specified as fixed across MSAs in the models for Whites (Model 1) and Hispanics (Model 2). For Blacks, I used Model 3 to demonstrate the overall effects of victimization on mobility and then Model 4 to demonstrate the moderating role of residential segregation.

The victimization variables were not related to mobility in uniform ways across the groups. For Whites, the odds of moving increased by $(\exp\{.259\}-1) = 29\%$ with each additional violent victimization, and $(\exp\{.088\}-1) = 9\%$ with each additional property victimization. The impact of violent crimes was therefore considerably larger than that of property crimes. This outcome supports the notion that violent crimes are especially burdensome and frightening, and so are more likely to motivate households to move (see Dugan, 1999: 907; South and Messner, 2000: 98).

Because White households were the majority of the sample, their patterns resembled what we saw in the pooled analysis. The separate analysis of Hispanic households (Model 2), in contrast, failed to detect statistically significant mobility differences between victims and non-victims after taking other variables into account. This outcome is in line with Hipp's (2010) finding that perceptions of crime had no impact on the residential decisions of a Hispanic sample in the American Housing Survey.

Table 4. Models of Household Mobility by Race and Ethnicity

Variables	(Model 1) Whites Coefficient	(SE)	(Model 2) Hispanics Coefficient	(SE)	(Model 3) Blacks Coefficient	(SE)	(Model 4) Blacks Coefficient	(SE)
N of violent victimization	.259 ***	(.064)	.308	(.160)	.045	(.089)	.134	(.104)
× Black separateness							- .258 **	(.083)
× Hispanic separateness							.187	(.101)
N of property victimization	.088 **	(.033)	- .017	(.078)	.178 **	(.056)	.175 **	(.060)
× Black separateness							- .004	(.061)
× Hispanic separateness							.042	(.044)
Housing Investment								
Homeowner	- 1.355 ***	(.038)	- 1.471 ***	(.080)	- 1.286 ***	(.101)	- 1.290 ***	(.101)
Length of residence (in years)	- .014 ***	(.002)	- .057 ***	(.007)	- .021 ***	(.004)	- .021 ***	(.004)
Household SES								
Household income	- .014 **	(.005)	- .015	(.009)	- .024 **	(.008)	- .024 **	(.008)
Education of household head	.006	(.005)	.024 **	(.008)	.016	(.011)	.016	(.011)
Unemployed member	.145 ***	(.033)	.129 *	(.064)	- .015	(.052)	- .015	(.052)
Family Development Stages								
Age of household head	- .022 ***	(.001)	- .024 ***	(.003)	- .022 ***	(.002)	- .022 ***	(.002)
Family size	- .067 ***	(.016)	- .092 ***	(.022)	- .027	(.021)	- .028	(.021)
Married couple	- .140 ***	(.036)	.028	(.063)	.027	(.072)	.028	(.072)
Presence of children	- .261 ***	(.047)	- .064	(.081)	- .250 *	(.097)	- .250 *	(.097)
MSA housing market								
Black separateness	- .080 ***	(.023)	- .121	(.074)	- .114 *	(.057)	- .113 *	(.054)
Hispanic separateness	.070 *	(.031)	- .151 *	(.074)	.024	(.045)	.020	(.045)
Log population density	- .085 **	(.032)	.032	(.075)	- .091	(.061)	- .091	(.059)
Socioeconomic disadvantage	- .093 ***	(.027)	.060	(.068)	.064	(.048)	.063	(.046)
% units vacant for sale or rent	.047 *	(.022)	.102	(.058)	- .015	(.051)	- .022	(.050)
Northeast	- .118 *	(.050)	- .370 *	(.169)	- .212	(.143)	- .200	(.142)
South	.238 ***	(.056)	.099	(.128)	.284 *	(.135)	.313 *	(.135)
Midwest	.081	(.055)	.181	(.188)	.281	(.156)	.282	(.154)
Time Period								
Period 2	.009	(.042)	.069	(.071)	.105	(.098)	.105	(.098)
Period 3	- .041	(.045)	- .032	(.080)	- .014	(.090)	- .016	(.090)
Period 4	- .001	(.044)	- .043	(.088)	- .048	(.089)	- .047	(.088)
Period 5	- .110 **	(.040)	- .297 **	(.110)	- .020	(.120)	- .020	(.121)
Intercept	- 1.928 ***	(.051)	- 1.995 ***	(.126)	- 2.077 ***	(.122)	- 2.087 ***	(.123)

Level-2 random effect	**Variance**	χ^2	**Variance**	χ^2	**Variance**	χ^2	**Variance**	χ^2
Intercept	.003 **	63.632	.015 **	64.294	.014	43.789	.017 *	48.033
N of violent victimization							.020	26.069
N of property victimization							.007	36.418
-2(log-likelihood)	220048.057		42099.676		44837.106		44831.963	
LR χ^2 vs. unconditional model	5495.420***		1437.251***		1151.964***		1157.107***	
(d.f.)	(23)		(23)		(23)		(32)	
N of households	24,335		4,722		5,077		5,077	
N of household-periods	96,308		17,705		18,772		18,772	

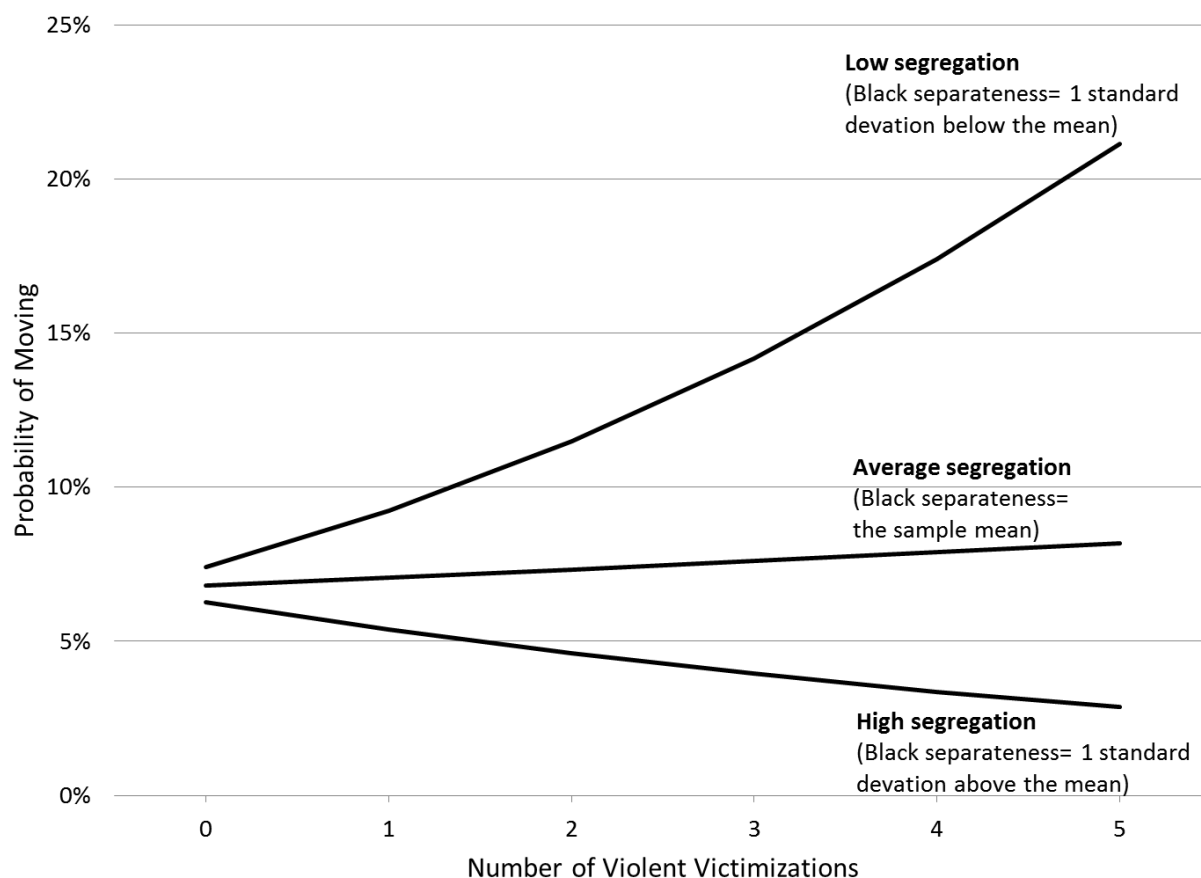*Notes*: * *p*<.05, ** *p*<.01, *** *p*<.001.

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For the purpose of future research, I nevertheless note that the effect of victimization counts, especially the effect of violent victimization, was estimated in the Hispanic sample with a large effect size (compared with its White counterpart), but also with a large standard error. This may be due to the smaller sample size of Hispanic households compared with Whites, or possibly, as some evidence suggests, this could reflect the diversity among Hispanics in mobility patterns (e.g., see South, Crowder, and Chavez, 2005b).[8] I will consider this issue in additional detail in the Discussion section of this report. For now, the lack of a significant link between victimization and mobility in the Hispanic sample suggests that this group is less responsive to the push of crime.

For Blacks (Model 3), violent victimization also did not show a significant association with mobility when I evaluated the slope as a fixed effect across MSAs. When I examined the cross-MSA variation in this relationship (Model 4), however, I found a significant interaction between Black separateness and violent victimization. As indicated by the negative sign of the interaction term, the association between victimization and mobility was stronger in MSAs with lower levels of Black separateness. Figure 1, for example, shows the estimated probabilities of moving for Black households as a function of violent victimizations for high, low, and average levels of Black separateness (values for other variables were set to sample means). As this figure shows, even though violent victimization was not significantly related to Black mobility when averaged across all MSAs, its influence was significantly larger for Blacks living in less-

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[8] Compared with Blacks, Hispanics had lower victimization rates and this may also lower the statistical power to find the relationship between victimization and moving for Hispanics.

segregated areas. Presumably, this difference is due to Black victims having more housing

opportunities in areas where residential segregation is lower. [9]

Figure 1. Probabilities of moving as a function of violent victimizations in areas with different levels of Black separateness for Black households with mean characteristics

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[9] During the study period, Blacks and Whites had a similar percentage of violent victimizations committed by strangers. When I narrowed the analyses to stranger violence, the pattern of the findings did not change.

Turning to property victimizations in Model 3, I unexpectedly found a relatively large association between property victimization and Black household mobility. Specifically, an additional property crime was associated with a 19% increase in the odds of Black households moving ($\exp\{.178\}-1$). The conditioning effect of Black separateness was negligible for this type of crime (Model 4), although the interaction term had the same (negative) sign.

Thus, returning to our hypotheses, the results were partially supportive of the proposition that minorities would be less likely than Whites to change residence in response to victimizations. For Hispanics and Blacks, the non-statistically significant relationships between victimization and mobility (which occurred for three out of the four coefficients related to the victimization counts) were consistent with the theoretical expectation that limited economic resources and constrained market conditions may hinder the ability of minorities to move in order to avoid crime (Alba, Logan, and Bellair, 1994; Hipp, 2010). The additional findings that Blacks and Hispanics had a lower likelihood of moving than Whites (Table 3) and that their mobility rates were negatively influenced by their levels of segregation (Table 4, see the main effects of segregation in Models 2 through 4, and the interaction effect of Black segregation and violent victimization in Model 4) were all consistent with this interpretation.

The results for Black mobility (Models 3 and 4) nevertheless complicated this picture. The finding that Blacks were positively influenced by property victimization in their mobility raised the question of why property offenses were more of an incentive to move. Because not all groups experienced the amount of property loss in their victimizations (Table 1), I next extended the models to include the full set of victimization variables.

Models with the Full Set of Victimization Variables

For each group, I estimated a series of models described in Table 5, first entering the victimization variables one by one (Models 1 to 6) and then examining them together (Model 7).[10] The results indicated distinct racial/ethnic group patterns. For White households (Panel A), the addition of injury and property loss did not significantly improve the fit of the models. The coefficients of the victimization count variables also changed little when injury and property loss were included (compare Model 7 in Table 5 with Model 1 in Table 4).

Victimization counts were the most important of the victimization variables in shaping White household mobility. Property loss was not related to White residential mobility, regardless of the measures used. I initially found a positive association between injury and moving, but the coefficient was reduced by 78% after including the victimization counts in the model. Overall, based on these results, the incidence of victimization seemed to be a strong motivation for White households to move. Whether or not the victimization resulted in injury or property loss added little information as far as the mobility decisions were concerned.[11]

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[10] Because of collinearity, Model 7 did not include the last two victimization variables: the ratio of net property loss to income (r = .92 with the ratio of total property loss to income) and uninsured property loss (r = .80 with the number of property victimization). All models used the full set of control variables as the models in Table 4.

[11] Here one should be cautious in interpreting the results because the sample had relatively limited variation in injury and property loss, which increased the standard error of the results. Given that this was the first study to examine the effects of these variables on mobility, it is important for future studies to test the relationships on a more varied sample.

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Table 5. Effects of Victimization Counts, Injury, and Property Loss on Household Mobility

Variables	(1) b (SE)	(2) b (SE)	(3) b (SE)	(4) b (SE)	(5) b (SE)	(6) b (SE)	(7) b (SE)
Panel A: Whites							
N of violent victimization	.277 *** (.062)						.241 ** (.084)
N of property victimization		.101 ** (.032)					.083 * (.034)
Physical injury (1= yes)			.426 * (.172)				.093 (.221)
Ratio of total property loss to income				.305 (.435)			.192 (.338)
Ratio of net property loss to income					.579 (.532)		
Uninsured property loss (1 = yes)						.036 (.051)	
Panel B: Hispanics							
N of violent victimization	.305 (.160)						.282 (.192)
N of property victimization		- .007 (.077)					- .021 (.079)
Physical injury (1= yes)			.437 (.350)				.102 (.421)
Ratio of total property loss to income				.103 (.399)			.116 (.407)
Ratio of net property loss to income					.117 (.407)		
Uninsured property loss (1 = yes)						- .019 (.112)	
Panel C: Blacks							
N of violent victimization	.076 (.125)						- .055 (.190)
N of property victimization		.180 ** (.056)					.155 * (.063)
Physical injury (1= yes)			.321 (.260)				.361 (.401)
Ratio of total property loss to income				.662 * (.292)			.489 * (.212)
Ratio of net property loss to income					.713 * (.337)		
Uninsured property loss (1 = yes)						.267 ** (.096)	

Notes: The models included the same control variables as models in Table 4 (the results were omitted for brevity). * $p<.05$, ** $p<.01$, *** $p<.001$.

Table 5 presents different patterns for Hispanics and Blacks as compared with Whites. Despite their shared minority status, Hispanics and Blacks were dissimilar in how they reacted to victimization, particularly in the way they were influenced by property loss. For Hispanics, consistent with the findings that victimization counts did not predict mobility, the extent of injury and property loss had no significant effect on moving either. For Blacks, however, I found a positive relationship between property loss and mobility across all measures, whether using the ratio of total loss to income, the ratio of net loss to income, or the indicator of uninsured loss.[12] These relationships explained some of the link between property victimization and mobility in the Black sample. When I included the ratio of total property loss to income in Panel C of Model 7, for example, the effect of the victimization count decreased, although it remained statistically significant. I looked for, but did not find, evidence of geographic variation across MSAs in the effects concerning property victimization. Black households showed a consistent tendency to increase mobility after property loss across the sample MSAs.

The finding that Black mobility is sensitive to property loss is of special theoretical interest because it is possible that some households may have moved due to economic hardship. In past research, studies have typically assumed victim mobility results from planned voluntary choices, and that victims moved because they wanted to live in safer places. Yet households may also face involuntary moves because they can no longer afford to pay their mortgage or rent. Consistent with this possibility, more general studies of residential change have provided evidence that a larger share of Blacks than Whites experience involuntary moves for reasons such as financial difficulties or impending evictions (see, e.g., Crowder, 2001; McAllister, Kaiser, and Butler, 1971). These observations, combined with the findings of this project,

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[12] For all racial/ethnic groups, I tested for and found no evidence of a threshold effect of the ratio of property loss to income on moving.

suggest that existing ideas about the impact of victimization on moving may be overly simplified, and that they will need modification to account for racial and ethnic difference in response patterns. [13]

DISCUSSION

Previous research on the link between crime and residential mobility raises an important question not yet addressed in the literature: After experiencing violence or property victimization, do households make different moving decisions across racial/ethnic groups?

Based on existing work, I anticipated that victimization would have a stronger effect on moving decisions for White than for Black or Hispanic households. I also expected that the degree of neighborhood residential segregation would moderate the impact of victimization on mobility, that is, that minority victims would move more freely in less segregated areas.

My findings support these hypotheses to some extent, but they further indicate that the effects of victimization are likely to be more complex than current theories suggest. First, I found that among Blacks and Hispanics, the patterns of residential mobility for each group after victimization shared some commonalities in the sense that both groups showed less clear-cut evidence of moving after victimization than Whites. Yet I also found notable differences between the groups, specifically in how their moving decisions were affected by crime attributes and market conditions. Second, I noted that although Black residential mobility was low overall after criminal victimization, it was much higher in circumstances that suggested involuntary change related to economic hardship. Finally, residential segregation appeared to be a greater

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[13] In supplementary analyses, I also examined the moving patterns of White and Hispanic households with low income. Property victimizations did not lead those households to move more frequently, and this suggests that we need to consider beyond household income to understand the property crime-mobility relationship among Black households.

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barrier to victimization-related moving for Blacks than for Hispanics. I discuss the implications

of these findings below, comparing them with the results of existing research.

Crime and White Flight: How Do the Data Support the Hypothesis?

The first and perhaps most important implications of this study challenge existing

understandings of how crime affects moving behaviors. In the mobility literature (e.g., as

summarized by South and Messner [2000: 96]), White flight has been an influential framework,

guiding how researchers think about race and crime and their intersecting effects on residential

change. This framework assumes that Whites are relatively well-positioned, financially and in

terms of access to housing markets, to change residence in order to escape criminal

victimization. Blacks and Hispanics face both discriminatory treatment and less favorable social

and economic circumstances, and so have fewer opportunities to seek safer areas in which to

live.

In line with this conceptualization, I found the most consistent evidence among Whites to

show that the incidence of crime led to a greater likelihood of household mobility. Specifically, I

found that White mobility was most strongly linked to the number of violent victimizations,

followed by the number of property victimizations. The extent of victim injuries and property

loss, however, had no additional effect on residential mobility. One may thus speculate that

concern for household safety is an important consideration that motivates White households to

relocate. In such circumstances, an incident does not have to result in actual injury or property

loss for the victims to regard it seriously.

We will need more definitive data (e.g., survey reports on what motivates people to

move) in order to confirm these effects. Still, the fact that both the present study and research

using official crime rates (e.g., Liska and Bellair, 1995; Liska, Logan, and Bellair, 1998; Hipp, 2010, 2011) have found similar mobility patterns for Whites suggests that crime helps to shape patterns of residential change. The effects of victimization on people's lives are not limited to physical, economic, and psychological damages; victimization also influences decisions to move and sparks broader concerns about social instability.

Patterns of Black Mobility: Challenges to Current Understandings

Although attention to White flight is justified, the mobility patterns of other groups have equally important implications. The model of Black mobility, for example, suggests directions that research could take in order to better understand the complexity of moving decisions. First, I found that the strength of the relationship between violent victimization and Black mobility was dependent on the level to which the housing market was racially segregated. This finding requires us in future research to explain the mechanisms behind this relationship. Residential segregation may reduce opportunities for Blacks to enter neighborhoods with less crime. Segregation patterns may also indicate socioeconomic inequality in the metropolitan areas, and this suggests that there could be potential interactions between race/ethnicity, household income, metropolitan area disadvantage levels, and economic inequalities in the victimization-mobility relationship. These issues have received insufficient attention in the existing literature and a contextual model may better capture differences in the impact of victimization across housing markets.

Second, I found that following property victimization, Black mobility increased significantly. Such a pattern was not anticipated in light of previous evidence that Blacks have been found in other studies to be less likely than Whites to change residence because of concerns

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for neighborhood safety (Hipp, 2010). We might have concluded from this new evidence that Blacks are now well-positioned to escape crime, but if that were true, I should have found a comparable or greater relationship between violent victimization and Black moving behavior in my analyses. After all, we know from prior studies that the desire to escape crime sets the stage for violent crime in particular to produce a large effect on household mobility (Hipp, 2011; South and Messner, 2000: 98). Because I found a strong tendency among Blacks to move following property victimization, but not following violent victimization, one has to question whether Black sensitivity to property victimization when making mobility decisions might involve factors other than the motivation to escape crime.

Drawing on the literature on unplanned or involuntary mobility (Lee, 1978; McAllister, Kaiser, and Butler, 1971), I speculated that this study may have observed high Black mobility following property victimization because Blacks are more vulnerable than Whites to experiencing financial difficulties after property crimes. The data showed that Black mobility, unlike White mobility, was increased by the amount of property loss victims had experienced in these crimes. Under such circumstances, decisions to move may have resulted from displacement rather than a desire to find safer housing.

To evaluate this possibility, researchers need data that track mobile households' destinations. Past work along these lines has shown that Blacks are considerably more likely than Whites to follow a downward mobility path. For example, instead of moving upward from poor to non-poor neighborhoods, Blacks tend to move to neighborhoods that are economically worse off (Crowder and South, 2005; Massey, Gross, and Shibuya, 1994).

Based on the evidence, future research may benefit from exploring different types of mobility. Whether a residential change is the result of a voluntary or involuntary decision,

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whether a particular move reflects upward or downward mobility – these and other mobility patterns may all come into play. Allowing for such different patterns should result in a more precise and nuanced picture of the victimization-mobility relationship.

Hispanic Mobility: How Might it Differ from Black Mobility?

Of the three groups, Hispanics' patterns of mobility have received the least attention in the research literature. The results of the present study may appear simple at first glance: None of the victimization variables showed statistically significant associations with moving decisions among Hispanics. These findings nevertheless require closer attention because they raise questions about existing theories. Here I specifically note two issues that offer clues to the differences between Hispanic and Black mobility: (1) how to interpret the estimated coefficients for victimization variables, and (2) how to understand the role of residential segregation in the victimization-mobility relationship.

First, the coefficients for the number of violent victimizations (which, according to previous studies, should have a strong effect on mobility) were similar in size for both the Hispanic and White samples. The effect was statistically insignificant for Hispanics, however, as the coefficient had a larger standard error for the Hispanic sample than for the White sample. Despite the lack of statistical significance, the relationship between Hispanic victimization and moving bears further examination, particularly since the few other existing studies have yielded somewhat mixed results. Hipp's (2010, 2011) work provides the most comprehensive examination of Hispanic mobility in relation to crime, and his findings varied depending on the samples involved. In particular, Hispanics showed increased mobility when violent crime rates were higher, but overall lagged behind Whites in their ability to avoid crime (Hipp, 2010, 2011).

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Variations in research designs, samples, and measures of crime all may have contributed to the divergent findings about Hispanic mobility. Also, the term *Hispanic* covers a large group of people with diverse cultural and socioeconomic backgrounds. The literature has shown the growing importance of understanding differences within the Hispanic population, because factors such as sub-ethnic groups (e.g., Mexican Americans, Puerto Ricans, Cubans, and Hispanics from other countries), nativity, generational status, language use, skin color, and length of time in the U.S. may all contribute to disparities in mobility (Alba, Logan, Stults, 2000; Ellis and Goodwin-White, 2006; Iceland and Nelson, 2008; South, Crowder, and Chavez, 2005b). Unfortunately, existing surveys lack the data needed to sort out these differences, and measures of sub-ethnic group status would be useful additions to the NCVS and other data collection efforts.

Second, although this study found that the segregation of Hispanics contributed directly to lower mobility among Hispanics, Hispanic segregation was not a significant moderator of the relationship between victimization and moving. This finding stands in contrast to Black segregation, in which the effects of crime were moderated so that Black violent-crime victims had higher probabilities of residential change when they lived in less segregated housing markets. Potentially, Hispanic and Black segregation may differ in how they influence mobility because they vary in magnitude: Blacks experience significantly more segregation than other groups, even controlling for socioeconomic status (Wilkes and Iceland, 2004).

Hispanic segregation may also differ from Black segregation in nature, since racial discrimination may have played a smaller role in the creation of Hispanic enclaves than in the formation of Black segregation (Massey and Mullan, 1984). Some segregation among Hispanics may arise from the choice to live in a co-ethnic community in order to gain advantages from the

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enclave labor and housing market (Charles, 2003; Portes and Rumbaut, 2006). Black segregation brings fewer benefits; although some researchers have suggested that Black segregation may have a positive impact on social outcomes (see discussion in Cutler and Glaeser, 1997), studies in general agree that residential segregation has strong adverse effects on Black social and economic well-being (see Charles [2003] for a review). These differences between Black and Hispanic segregation may cause variations in the degree to which it is a barrier for the groups when they would prefer to live in a safer place. In further exploring the contextual effects of segregation, future studies might incorporate information about local labor markets and population movement histories to understand how a place comes to have its residential structure. By understanding the degree as well the causes of segregation, such research may paint a more complete picture of individual responses to victimization than was previously available.

Implications for Policy and Practice

In terms of policy and practice, the results of the study have important implications for criminal justice and housing policies. First, residential movement, particularly when it is triggered by crime, has long been a concern of local governments because it may contribute to neighborhood decline (Taylor, 1995). This study provided additional evidence that crime victims, particularly White households, have a tendency to change residence after victimization. This finding, combined with the findings that the pattern of mobility is more complex for Black and Hispanic households and that they are more restricted in their moving behavior and are more likely to be affected by housing segregation in their ability to move after victimization, suggests a real possibility that crime may lead to an unwanted change in neighborhoods if their population loss is concentrated in just certain groups such as White households. To counter the sources of

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population loss, greater police protection and improved social services may be required to address the needs of victims (to counter the fear of crime, for example). Indeed, previous studies have found that being able to work with and trust the police and other community organizations increases neighborhood satisfaction (Rosenbaum, Reynolds, and Deluca, 2002). By showing *where* and *how* victimization may lead to increased probability of moving, this project helps local governments and agencies understand the importance of victim services.

Second, the results of the study also suggest that service providers should be sensitive to the different needs of victims of different race and ethnicity. For White households, for example, working with these victims to understand their needs and reestablish their satisfaction with the neighborhood may be a priority for preventing unwarranted White flight. For Black victims, on the other hand, it is important to understand why their mobility behavior is differently influenced by violence and property victimizations. Property loss may create greater economic hardship for Black households because they have less social and economic support (Hogan, Eggebeen, and Clogg, 1993). And if this is the process that drives the high mobility among Black households, service providers may target services and housing assistance to those at high risk of moving, particularly if their moving is induced by involuntary reasons (such as mobility due to failure to pay rent). For Hispanic victims, still, their variation can be potentially large when it comes to the question of moving in the event of victimization. Understanding these differences can help in the design of social programs to address problems associated with housing instability.

Finally, by linking household moving decisions to structural opportunities in the housing markets, this project helps local agencies better anticipate the problem of segregated housing. In the US, many states have used different integration measures — such as

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inclusionary zoning ordinances, dispersed subsidized housing, integration incentive programs, and urban transit initiatives — to ameliorate racial segregation and expand the availability of affordable housing for minority and low-income households (see a review by Orfield, 2005). These programs have met with mixed success. Because this project shows that victims' moving decision is linked to the racial segmentation of the housing market and that this relationship is particularly strong for Black households when they experience violent victimizations, this finding adds a new dimension to the complexity of housing regulation — that is, policymakers need to take into account environmental stressors such as crime victimization in designing regulations and incentives that encourage integrated housing. These efforts will benefit not only victims but also the whole communities by preventing selective moving behavior — such as White households move at a faster pace than other households — which is a potential factor for increasing racial segregation and concentrated poverty. In the end, the goal of victim assistance is not only to prevent unwanted instability but also to ensure that those who stay obtain the help they need to enhance the quality of life. The enhancement of housing opportunities and the provision of tailored victim services need to go hand in hand to promote a vibrant community for all individuals.

Conclusions

Overall, the data presented in this study tell a relatively complex story about the role that race and ethnicity play in victims' moving decisions. The disadvantages of minority groups in this process cannot be succinctly summarized as a simple pattern in which White victims flee areas with crime problems while Blacks and Hispanics stay in place. While White households show a strong tendency to move after victimization, the mobility behaviors of Blacks and Hispanics

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suggest that these groups, particularly Blacks, may be subject to more than one form of disadvantage. They may be more likely than Whites to stay in a high-crime area because of discriminatory housing practices; furthermore, they may experience higher rates of downward mobility than do Whites, which potentially could place them even closer to the risks of victimization. We would need additional data to test the details of these theories and to examine if the same patterns apply to Hispanics, or at least some of their most-disadvantaged sub-groups. The findings, nevertheless, extend how we think about racial/ethnic inequalities in the link between crime and mobility.

To conclude the discussion, I note that the Census Bureau has projected that the non-Hispanic White population will comprise less than half of the nation's population in the 2040s (U.S. Census Bureau, 2012). By 2060, Hispanics will account for about one-third of the U.S. population; Blacks will slightly increase their share of the population, from 13 percent in 2010 to 15 percent in 2060 (U.S. Census Bureau, 2012).

As the U.S. population becomes more racially and ethnically diverse, the patterns of Black and Hispanic mobility we observed in this study will play more significant roles in influencing national population flows. This project has taken advantage of several strengths of the NCVS data and has shown how they helped identify patterns of post-crime mobility that were previously unnoticed. Among those features, the survey's longitudinal (panel) design, relatively large minority samples, wide geographic coverage, and rich descriptions of crime incidents were most critical for the analyses.

This report also has identified the limitations of existing data. In addition to the most basic information about one's race and ethnicity, for example, information regarding ethnic subgroups, national origins, and patterns of acculturation and assimilation could potentially enhance the utility

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of the NCVS data, as well as the value of many other databases. This study shows that research needs to go beyond the number of crimes to study the circumstances of incidents and the conditions of housing markets to understand how different groups may face different social, financial, and structural motivations and constraints when they come to making decisions about where to live following victimization. The challenges are great and will require innovative research and more extensive data collection.

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Appendix 1. Map of Metropolitan Areas in the NCVS MSA Sample (*N* = 40)

Note: The MSAs are Anaheim-Santa Ana, CA; Atlanta, GA; Baltimore, MD; Boston, MA-NH; Charlotte-Gastonia-Rock Hill, NC-SC; Chicago, IL; Cincinnati, OH-KY-IN; Cleveland-Lorain-Elyria, OH; Columbus, OH; Dallas, TX; Denver, CO; Detroit, MI; Fort Lauderdale, FL; Fort Worth-Arlington, TX; Houston, TX; Kansas City, MO-KS; Los Angeles-Long Beach, CA; Miami, FL; Minneapolis-St. Paul, MN-WI; Nassau-Suffolk, NY; New York, NY; Newark, NJ; Norfolk-Virginia Beach-Newport News, VA-NC; Oakland, CA; Orlando, FL; Philadelphia, PA-NJ; Phoenix-Mesa, AZ; Pittsburgh, PA; Portland-Vancouver, OR-WA; Riverside-San Bernardino, CA; Sacramento, CA; St. Louis, MO-IL; San Antonio, TX; San Diego, CA; San Francisco, CA; San Jose, CA; Seattle-Bellevue-Everett, WA; Tampa-St. Petersburg-Clearwater, FL; Washington, DC-MD-VA-WV; and West Palm Beach-Boca Raton, FL.

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Appendix 2. Dissemination of Research Findings

So far, this award has resulted in the following presentation(s) and manuscript(s).

Min Xie. 2012. *The Impact of Victimization on Residential Mobility: Explaining Racial and Ethnic Patterns using the NCVS.* Paper presented at 2012 American Society of Criminology Conference, Chicago, IL.

Min Xie and David McDowall. *The Impact of Victimization on Residential Mobility: Explaining Racial and Ethnic Patterns Using the National Crime Victimization Survey*. Revise and Resubmit. *Criminology*.