

**COMMUNITY CONTEXT AND HOMICIDE CLEARANCE RATES:
ESTIMATING THE EFFECTS OF COLLECTIVE EFFICACY**

by

Ashley Mancik

A thesis submitted to the Faculty of the University of Delaware in partial
fulfillment of the requirements for the degree of Master of Arts in Criminology

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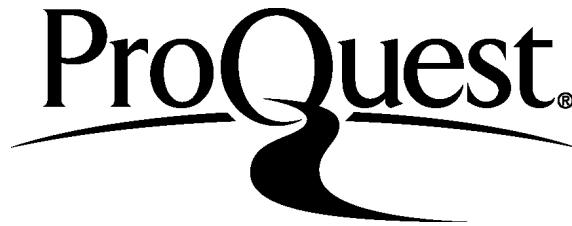
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ESTIMATING THE EFFECTS OF COLLECTIVE EFFICACY**

by

Ashley Mancik

Approved: _____
Karen F. Parker, Ph.D.
Professor in charge of thesis on behalf of the Advisory Committee

Approved: _____
Kirk R. Williams, Ph.D.
Chair of the Department of Sociology and Criminal Justice

Approved: _____
George H. Watson, Ph.D.
Dean of the College of Arts and Sciences

Approved: _____
James G. Richards, Ph.D.
Vice Provost for Graduate and Professional Education

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ABSTRACT

Homicide clearance rates have fallen to a historic low, with less than two-thirds of homicides cleared by arrest. However, only a handful of macro-level studies of homicide clearance exist in the literature, and results are mixed regarding the impact of community characteristics (e.g., economic deprivation, residential stability) on clearance. Additionally, although research has established that community members are critical to homicide case outcomes, the effect of collective efficacy (i.e., social cohesion among neighborhood residents combined with their willingness to intervene) on homicide clearance rates has not been empirically tested. In an effort to fill this gap in the literature and potentially address previous inconsistencies, I combine data from the Homicides in Chicago Dataset, PHDCN, and 1990 U.S. Census to explore the direct and indirect effects of structural features, collective efficacy, and legal cynicism on homicide clearance rates in Chicago neighborhoods. Results indicate that economic deprivation, residential stability, population size, and legal cynicism all significantly decrease the likelihood of homicide clearance, while immigrant concentration and collective efficacy significantly increase the likelihood of homicide clearance. Results also indicate that collective efficacy may partially mediate the relationship between economic deprivation and homicide clearance. Potential implications and directions for future research are also discussed.

Chapter 1

COMMUNITY CONTEXT AND HOMICIDE CLEARANCE RATES: ESTIMATING THE EFFECTS OF COLLECTIVE EFFICACY

Introduction

Homicide clearance rates have fallen to a historic low, with less than two-thirds of all homicides cleared by an arrest. At a national high of just over 90% in 1960, homicide clearance rates have since dropped as low as 62% by 2012¹ (Federal Bureau of Investigation [FBI] 2012; Keel, Jarvis, and Muirhead 2009), although they still remain the most cleared crime when compared to other offenses (Litwin 2004; Paré, Felson, and Ouimet 2007). Low clearance rates have a number of negative consequences. For example, a lack of clearance prolongs closure for the victims' friends and families. Additionally, it can have negative effects on the community and police officers, such as heightening fear and distrust between neighborhood residents and law enforcement officers, and impacting perceptions of police effectiveness (see e.g., Keel et al. 2009; Ousey and Lee 2010; Paré et al. 2007; Puckett and Lundman 2003; Regoeczi, Kennedy, and Silverman 2000). Furthermore, declining clearance

¹Homicide clearance rates are calculated by dividing the total number of homicides cleared by arrest or exceptional means by the total number of homicides known to police, multiplied by 100. This definition has remained the same since the 1930s (Keel et al. 2009), thus it is not a change in definition that is contributing to this trend.

rates can reduce both general and specific deterrence mechanisms, the foundation of our criminal justice system. Therefore, understanding the factors that impact homicide clearance rates is important.

Studies of crime clearances tend to focus on victim or incident characteristics with limited attention to the broader ecological environment in which they occur (but see Borg and Parker 2001; Litwin 2004; Litwin and Xu 2007; Mustaine, Tewksbury, Corzine, and Huff-Corzine 2012; Ousey and Lee 2010; Paré et al. 2007; Regoeczi and Jarvis 2013; Roberts 2008 for notable exceptions). This is problematic because extant research finds that community characteristics are relevant to both homicides and their investigations. As such, this thesis research focuses on the importance of the community context on homicide clearance outcomes. Specifically, I draw from social disorganization theory to explore the relationship between structural features, collective efficacy, and homicide clearances at the neighborhood level.

Establishing these linkages theoretically and then offering an empirical test of them is the key objective behind this thesis. I begin with a brief review of relevant crime clearance literature, focusing on the importance of community characteristics and community participation. This is followed by a discussion of social disorganization, collective efficacy, and legal cynicism, specifying their theoretical linkages with homicide clearance. These arguments are then empirically tested with neighborhood and homicide clearance data. I conclude with a discussion of the implications and limitations of this research, as well as directions for future research.

Clearance Literature

Over the past 15 years a significant body of research has accumulated attempting to understand the factors that impact homicide clearance. Most of these studies have focused on victim- or incident-level predictors of homicide clearance. However, only a limited number of studies have considered the ecological context in which these crimes occur and how this may influence homicide case outcomes. For instance, scholars have examined neighborhood effects on homicide clearance rates in Chicago (Litwin 2004; Litwin and Xu 2007), Cleveland (Regoeczi and Jarvis 2013), and Columbus neighborhoods (Puckett and Lundman 2003). Additionally, Mustaine et al. (2012) examined the influence of neighborhood effects on sexual assault case clearances in Orlando, while Borg and Parker (2001) and Ousey and Lee (2010) focused on factors affecting homicide clearance rates for large U.S. cities.

The community characteristics discussed below focus on the major determinants of social disorganization (i.e., economic deprivation, residential instability, and racial/ethnic heterogeneity), while the community participation section establishes the importance of community members to aid in homicide investigations. The theoretical importance of each of these will be established in the following section.

Community Characteristics

Overall, results regarding the impact of economic indicators on homicide clearance rates have been mixed, with some scholars finding that police are less likely to clear crimes in impoverished areas (e.g., Sullivan 1985), whereas others have found crime clearance is more likely in poorer communities (Ouimet and Paré 2003; Paré et al. 2007). Additionally, Ousey and Lee (2010) found that within-city changes in levels of resource deprivation are positively related to changes in homicide clearance rates over time. In their study of homicide clearances in Chicago for three time periods, Litwin and Xu (2007) found that economic disadvantage was only significant in the last time period (i.e., 1986-1995), with community areas with higher levels of economic disadvantage experiencing lower homicide clearance rates during this time period. Furthermore, several studies have found no relationship between economic indicators and crime clearances. For instance, Borg and Parker (2001) found that their unemployment measure was not significant in predicting city-level homicide clearance rates. Additionally, neither of Litwin's (2004) economic indicators, median area income and unemployment rate, were significant. Mustaine et al. (2012) also found that their concentrated disadvantage index was not significantly related to sexual assault case clearances in Orlando, and Regoeczi and Jarvis' (2013) measure of concentrated disadvantage was not significant in homicide clearances in Cleveland neighborhoods.

Despite the inconsistent results of economic indicators on clearance rates, studies tend to find that indicators of residential stability increases the likelihood of clearance, whereas measures of residential instability have no effect. For example, Litwin (2004) found that homicide clearance rates were higher in areas with higher homeowner rates. Additionally, Borg and Parker (2001) found that homicide clearance rates were higher in cities with greater residential stability. Long-term residents may be more attached to and invested in their neighborhoods, potentially impacting their willingness to aid police investigation. However, studies using measures of residential instability tend to find no effect on crime clearance outcomes (Mustaine et al. 2012; Ousey and Lee 2010; Regoeczi and Jarvis 2013).

Very few studies have considered how the relative size of the immigrant population may impact crime clearance outcomes. However, many studies have found that homicides with Latino victims were less likely to be cleared (e.g., Alderden and Lavery 2007; Briggs and Opsal 2012; Litwin 2004; Litwin and Xu 2007; Regoeczi et al. 2000; Roberts and Lyons 2011), and they have attributed this to more negative relationships between Latinos and police, and also to potential language barriers (Alderden and Lavery 2007). Litwin and Xu (2007) also found that the percentage of the population that was Spanish-speaking significantly decreased the odds of clearance in their final time period (i.e., 1986-1995). The one study that did consider the relative size of the immigrant population, found that changes in immigration had a negative association with within-city changes in homicide clearance rates over time (Ousey and Lee 2010), as theoretically expected.

Despite the fact that theoretically the link between community characteristics and clearance outcomes is strong, empirical support is weak. Taken as a whole, the direct effects of community characteristics on homicide clearance rates have been mixed. While results have been inconsistent, one possibility is that the effect of these structural characteristics on clearance rates is more indirect and mediated by the level of collective efficacy in the neighborhood. Although the relationship between collective efficacy and homicide clearance rates has yet to be empirically tested, some scholars have interpreted their results in terms of collective efficacy. For example, Regoeczi and Jarvis (2013) did not find a direct effect of concentrated disadvantage on clearance rates, however they did find that concentrated disadvantage conditions the relationship between third party presence and homicide clearance. That is, third parties significantly increased the odds that a homicide was cleared, but this effect was reduced in disadvantaged areas. They noted that this may be because there is lower collective efficacy in disadvantaged neighborhoods, reducing the likelihood that witnesses would cooperate with police to solve the case.

Community Participation

Without question, research has found that community members play a crucial role in the outcome of case clearances (see e.g., Keel et al. 2009; Litwin 2004; Puckett and Lundman 2003; Riedel and Rinehart 1996; Regoeczi et al. 2000; Wellford and Cronin 1999). Whether it is through increased witness cooperation and willingness to

come forward with information (e.g., Wellford and Cronin 1999), increased willingness of community members to lobby for additional police resources (Borg and Parker 2001), or community members pushing police for a more thorough investigation (Paré et al. 2007), their engagement enhances the likelihood of case clearances. Because witness cooperation has been found to be one of the strongest predictors of homicide case outcomes, it is imperative to analyze not only the relationship between neighborhood residents (via collective efficacy), but also the relationship between resident and police in those areas (via legal cynicism). As such, in addition to my main focus on collective efficacy, I will also consider the impact of legal cynicism on homicide clearance rates.

In sum, research on homicide clearances has rarely accounted for neighborhood conditions and, when research has been conducted at the macro level, inconsistencies abound. Additionally, collective efficacy has not been empirically tested in the study of homicide clearance rates, even though research has established the importance of residents to aid police investigation. This research attempts to fill an important gap in these two literatures. Furthermore, by examining both direct and indirect influences of community characteristics on homicide clearance rates, previous inconsistencies may be addressed.

Theoretical Framework

Considering extant research has demonstrated the importance of community characteristics on homicide clearance, the present study draws on one of the leading community level theories, social disorganization theory. However, it also takes into account the importance of community members for successful homicide outcomes. That is, this thesis extends prior research by considering and empirically testing the effects of collective efficacy and legal cynicism on homicide clearance rates. In essence, I explore whether the ability of a community to establish collective efficacy in terms of building trust and sharing knowledge between residents impacts clearance rates for homicide. It is, then, a consideration of how informal social control (i.e., collective efficacy) affects formal social control outcomes (e.g., arrests for homicide incidents). Overall, I propose that neighborhoods with higher levels of collective efficacy will also experience higher homicide clearance rates. Moreover, I also explore whether collective efficacy and legal cynicism partially mediate the direct effects of structural characteristics on homicide clearance rates. In the following sections, the importance of neighborhood level research is reviewed.

Social Disorganization

Social disorganization theory posits that neighborhoods characterized by structural barriers, such as poverty and residential instability, will experience a breakdown in informal social control, thereby leading to increased crime rates

(Sampson and Groves 1989; Shaw and McKay 1942; Shaw, Zorbaugh, McKay, and Cottrell 1929). Although social disorganization theory was originally intended to explain variation in crime rates across neighborhoods, there are several reasons why disorganized areas may experience lower clearance rates, as well. With the breakdown in informal social control, trust between neighbors is weakened and they are less likely to intervene on behalf of their community (i.e., they are less likely to establish collective efficacy). Residents in these neighborhoods are also less likely to cooperate with police due to a lack of trust in law enforcement (Bursik and Grasmick 1993; Litwin 2004; Puckett and Lundman 2003; Roberts 2008).

Although I argue that structural features primarily impact homicide clearance rates indirectly via collective efficacy and legal cynicism (discussed in more detail below), there is reason to believe that structural features may also exert direct effects on homicide clearance rates. For example, neighborhoods with high levels of economic deprivation may have less resources to expend on a homicide investigation. Furthermore, in areas characterized by rapid population turnover, residents may be less familiar with their neighbors, and therefore less able to identify witnesses or suspects (Regoeczi and Jarvis 2013). As such, they may not be able to aid in investigations, even if they wanted to. Also, clearance rates may be lower in areas with higher concentrations of immigrants if residents are fearful of speaking with police due to their residency status or the status of someone they know being revealed (Puckett and Lundman 2003), or because of language barriers (Alderden and Lavery 2007).

H₁: Structural characteristics of neighborhoods will have direct effects on homicide clearance rates. Specifically, economic deprivation and immigrant concentration will decrease homicide clearance rates and residential stability will increase homicide clearance rates.

Collective Efficacy

Collective efficacy stems from social disorganization theory and refers to the combination of social cohesion and trust between neighbors and their willingness to engage in informal social control (Sampson et al. 1997). It represents the activation of social ties to achieve collective goals and it has been found to reduce a number of negative outcomes including violent crime rates and health and wellness concerns, (see Sampson 2012 for a discussion; Sampson et al. 1997), and has been found to increase the probability of arrest (Kirk and Matsuda 2011). However, it is important to note that collective efficacy captures the *combination* of social cohesion and informal social control (Sampson et al. 1997; p. 919). That is, social cohesion or informal social control alone are not sufficient to capture the theoretical construct of collective efficacy; both are important to facilitate action. Just as each component on its own is not sufficient to reduce crime rates, strong social ties without an accompanying willingness to intervene is also not sufficient for, and may even hinder, the successful clearance of crimes.

Sampson and his colleagues (1997) state that “social cohesion refers generally to the capacity of a group to regulate its members according to desired principles – to

realize collective, as opposed to forced, goals” (p. 918). One of these collective goals may be the desire to live in a crime free area (Sampson et al. 1997). However, residents must not only realize this collective goal, but also be willing to work together to achieve it. As such, recognizing the desire to live in a safer environment should help mobilize residents to engage in actions to thwart crime in their communities, as well as seek justice for those who engage in crime. Until the homicide is cleared, it is possible that the offender is still in the neighborhood and could potentially cause more harm. As a result, residents in neighborhoods with higher levels of collective efficacy may be more likely to aid in investigations due to their mutual desire to live in a safer environment.

Collective efficacy also captures trust between residents. Therefore, community members should be less likely to engage in collective actions, such as aiding in a homicide investigation, in neighborhoods with low levels of collective efficacy, where residents distrust or fear one another. Even if residents wanted to cooperate in a police investigation, fear of retaliation if the suspect were to find out may hinder their cooperation. In fact, in their analysis of homicide case narratives, Regoeczi and Jarvis (2013) found that fear of retaliation was one of the biggest obstacles police must overcome in homicide investigations. Anderson (1999) furthers this notion by discussing how people pretend not to have seen something so that they will not be targeted for snitching. Conversely, in neighborhoods with higher levels of collective efficacy and increased trust between residents, witnesses should be less fearful of retaliation (Regoeczi and Jarvis 2013).

Finally, collective efficacy captures community level informal social controls. Informal social control relates to the community's willingness to work together collectively to solve problems and achieve common goals for the well-being of the community (Sampson et al. 1997). For example, feelings of empowerment among residents to address local crime problems may contribute to their increased willingness to lobby together for more resources (Borg and Parker 2001), push police for a more thorough investigation (Paré et al. 2007) or establish a neighborhood watch group. With increased supervision, the likelihood that someone will come forward with information and that the case will be cleared by arrest increases (Litwin 2004; Regoeczi and Jarvis 2013).

As established in the literature, the concept of collective efficacy captures the combination of: 1) social cohesion among residents, 2) trust between neighbors, and 3) community members' willingness to work together to solve problems. For the reasons discussed above, collective efficacy should increase residents' willingness to aid police in homicide investigations and contribute to higher homicide clearance rates.

H₂: Collective efficacy will have a direct, positive effect on homicide clearance rates. That is, neighborhoods with higher levels of collective efficacy will experience higher homicide clearance rates.

Collective Efficacy as a Mediator

Collective efficacy was originally put forth as a mechanism to explain the connection between ecological structural characteristics and neighborhood variation in crime rates. For example, Sampson et al. (1997) found that collective efficacy partially mediates the relationship between concentrated disadvantage and residential stability on violent crime rates. That is, the effects of concentrated disadvantage and residential stability on violent crime rates were reduced once they accounted for the level of collective efficacy in the neighborhood. In an effort to further assess the relationship between collective efficacy and homicide clearance, I also examine whether collective efficacy mediates the effects of structural features on homicide clearance rates. That is, I examine whether structural characteristics impact homicide clearance rates indirectly through collective efficacy.

Neighborhoods vary in their ability to realize common values and maintain effective social controls. That is, neighborhoods vary in their ability to produce collective efficacy. Research has found that concentrated disadvantage and immigrant concentration decrease neighborhood collective efficacy and residential stability increases the level of collective efficacy (e.g., Sampson et al. 1997). Therefore, in order to test for mediation, I must first test whether these structural features (i.e., concentrated disadvantage, immigrant concentration, and residential stability) affect neighborhood levels of collective efficacy.

Testing the full model is important because varying levels of collective efficacy may account for some of the inconsistencies found in past studies that have only empirically tested the direct effects of structural features on homicide clearance. For example, Sampson et al. (1997) found that concentrated disadvantage decreased levels of collective efficacy in the neighborhood. However, studies have found mixed support for the hypothesis that concentrated disadvantage decreases homicide clearance rates. Although studies have established the importance of third parties in successful case outcomes, Regoeczi and Jarvis (2013) found that this effect was reduced in disadvantaged neighborhoods and attributed this to the fact that disadvantaged neighborhoods likely had lower levels of collective efficacy, and witnesses may have been more fearful of retaliation. It is also important because it should advance our theoretical understanding of the utility of collective efficacy on formal social control outcomes.

Sampson et al. (1997) also found that residential stability was positively and significantly related to collective efficacy and studies tend to find that residential stability increases homicide clearance rates (see e.g., Borg and Parker 2001; Litwin 2004). Residents in communities with higher residential stability are more likely to not only know the identities of their neighbors, but also develop a stronger sense of mutual trust between them and build informal social control. Therefore, it is not enough to know and be able to identify potential witnesses and suspects, they must be willing to share this information with the police. Willingness to share this information with police may be enhanced by collective efficacy because residents should be less fearful

of retaliation by neighbors and more willing to engage in action. Conversely, if residents do not trust their neighbors, they may be more fearful of retaliation for cooperating with police.

H₃: Structural features of neighborhoods will have a direct effect on the level of collective efficacy in those neighborhoods. Specifically, economic deprivation and immigration concentration will decrease neighborhood collective efficacy and residential stability will increase collective efficacy.

H₄: Collective efficacy will partially mediate the relationship between neighborhood structural characteristics (specifically, concentrated disadvantage and residential stability) and homicide clearance rates. That is, structural characteristics will have an indirect effect on homicide clearance rates via collective efficacy.

Legal Cynicism

Collective efficacy represents a stark contrast from formal mechanisms of social control, such as law enforcement. Instead, it focuses on mechanisms of informal social control and how community residents maintain their own public order (Sampson et al. 1997). While the relationship between collective efficacy and homicide clearance is key to this study, I also explore the relationship between legal cynicism and homicide clearance rates. Extant research has established the importance of police legitimacy for cooperation with police (Sunshine and Tyler 2003). Thus, in

addition to examining the relationship between residents, the relationship between residents and police is a separate but equally important consideration.

Legal cynicism refers to “a cultural orientation in which the law and the agents of its enforcement, such as the police and courts, are viewed as illegitimate, unresponsive, and ill equipped to ensure public safety” (Kirk and Papachristos 2011, p. 1191). Two important things to note about legal cynicism are: 1) it refers to the residents’ *perceptions* of the police as illegitimate or unresponsive, regardless of the reality, and 2) views of legal cynicism are shared among neighborhood residents, not isolated among certain individuals (Kirk and Matsuda 2011). Legal cynicism emerges as an adaptation to structural conditions (Kirk and Papachristos 2011), and can also be influenced by interactions with the police (Kirk and Matsuda 2011). Sampson and Bartusch (1998) found that variation in neighborhood-level structural barriers, particularly neighborhoods with high levels of concentrated disadvantage also experience higher levels of cynicism and dissatisfaction with police.

It has also been well-established in the literature that citizen perceptions of police legitimacy have a strong impact on whether witnesses will cooperate with police in investigations (see e.g., Briggs and Opsal 2012; Kane 2005; Kirk and Matsuda 2011; Ousey and Lee 2010; Puckett and Lundman 2003; Riedel and Jarvis 1998; Sunshine and Tyler 2003; Warner 2007). In fact, Sunshine and Tyler (2003) found that “legitimacy was the primary factor shaping cooperation with the police” (p. 532), and this finding is consistent across racial and ethnic groups. With witness cooperation a key component to a successful homicide investigation and clearance of

the case, lack of police legitimacy may contribute to lower clearance rates.

Additionally, Kirk and Matsuda (2011) found that cynicism decreased the probability of arrest and speculated that this was because residents in highly cynical neighborhoods were less likely to cooperate with police.

Finally, studies have found that attitudes toward police may also impact reporting of crimes (Ann Slocum, Taylor, Brick, and Esbensen 2010; Anderson 1999; Briggs and Opsal 2012) and these perceptions of police partially mediate the negative relationship between poverty and reporting (Slocum et al. 2010). The longer that a crime goes unreported, the less physical evidence is available for investigators to collect and the less clear witnesses' memories regarding events may become. Both of these could contribute to the case remaining unsolved. A witness' willingness to report the crime or come forward with information, however, could shorten this response time and potentially aid in the clearance of the case as police response times have been found to be positively associated with homicide clearances (Wellford and Cronin 1999).

H₅: Legal cynicism will have a direct, negative effect on homicide clearance rates.

That is, neighborhoods with higher levels of legal cynicism will experience lower homicide clearance rates.

The Current Study

In order to fully test for the influence of collective efficacy on homicide clearance rates, I first test whether concentrated disadvantage, immigrant concentration, residential stability, and legal cynicism predict neighborhood levels of collective efficacy. I then contribute to the growing body of literature on collective efficacy by testing its direct effect on a new outcome, homicide clearance rates, followed by a test of whether collective efficacy partially mediates the effects of structural characteristics on clearance rates. Figure 1 summarizes the conceptual model of the foregoing arguments that will be explored in this thesis.

Methods

Research Design and Data Sources

This study focuses on neighborhood variation in homicide clearance rates in Chicago, Illinois. Chicago was chosen because of the accessibility of data, high violent crime rate, and diversity of neighborhoods. Additionally, analyzing clearance rates at the neighborhood level provides the best test of collective efficacy consistent with Sampson et al.'s (1997) original conceptualization. Furthermore, research has found that neighborhood context is an important consideration of police behavior (e.g., Smith 1986), and neighborhood variations in police actions are masked when aggregated to the city-level (Hipp 2007).

While Chicago is comprised of 865 census tracts², this study utilizes the higher order “neighborhood cluster” as the unit of analysis. Sampson and his colleagues (1997) combined approximately two to three contiguous census tracts to form 343 meaningful “neighborhood clusters,” and they argue that these are more meaningful to capture community dynamics than smaller census tracts, or larger community areas. Not only were these census tracts in close geographic proximity to one another, but they were characterized by similar racial/ethnic composition, socio-economic status, housing density, and family structure. They were also based on residents’ own perceptions of their neighborhoods. Therefore, data was matched based on census tract identifiers and aggregated to the neighborhood cluster (NC)³ level for statistical analyses.

A multi-source data collection approach was used, merging data from several different secondary sources. First, homicide data for the years 1993 to 1995 was collected from the “Homicides in Chicago, 1965-1995” dataset (CHD) available through the Inter-university Consortium for Political and Social Research (ICPSR) at

² Sampson et al. (1997) say 847 census tracts, Morenoff et al. (2001) say 865 census tracts, and the PHDCN codebook says 825 populated census tracts. Other commonly cited sources discussing this dataset do not say (e.g., Kirk and Matsuda 2011; Kirk and Papachristos 2011; Sampson 2012; Sampson 2013). I use 865 because that is the number of census tracts included in my data file from ICPSR.

³ Neighborhood cluster, NC, and neighborhood are all used interchangeably and refer to the 343 neighborhood clusters Sampson and his colleagues created during the PHDCN.

the University of Michigan. Second, consistent with past research, the “Project on Human Development in Chicago Neighborhoods: Community Survey, 1994-1995” dataset (PHDCN: CS) provided measures used to create my collective efficacy and legal cynicism scales. Third, I gathered community-level measures of social and economic conditions from the 1990 U.S. Census.

Dependent Variable

The dependent variable is the neighborhood level count of the total number of homicides cleared by arrest. A homicide can be cleared in two ways: 1) cleared by arrest, or 2) cleared by exceptional means. Homicides may be cleared by exceptional means if the offender is known, but something precludes the police from making an arrest (e.g., the offender commits suicide or is being prosecuted for another offense in a different jurisdiction). The extant literature has debated whether exceptionally cleared homicides should be included in analyses (see e.g., Jarvis and Regoeczi 2009). I have chosen to exclude exceptional clearances because past research has found that the factors that impact clearance by exceptional means differ from those that impact clearance by arrest (Jarvis and Regoeczi 2009)⁴. I also chose to focus specifically on

⁴ A total of 204 homicides were excluded because they were cleared by exceptional means. This constitutes 7.8% of the total homicide counts in Chicago neighborhoods from 1993 to 1995.

homicides because they are the crime most accurately captured by police officials, most likely to be solved, and least likely to be affected by officer discretion.

When calculating both the homicide and homicide clearance counts, I used a three year average (from 1993-1995) due to the small number of cases that occur each year and to avoid any year-to-year fluctuations in the data. This is consistent with previous macro-level studies of homicide rates (e.g., Borg and Parker 2001; Krivo and Peterson 1996; Morenoff et al. 2001). I also provide statistics on the homicide clearance rate, or the percentage of homicides cleared by arrest. This rate is calculated by dividing the total number of homicides cleared by arrest by the total number of homicides known to police, multiplied by 100, and was also computed using a three-year average. This study only includes those neighborhoods where at least one homicide occurred between 1993 and 1995, which resulted in an initial sample of 309 neighborhoods.

Independent Variables

Community Characteristics⁵

Consistent with social disorganization theory and prior tests of collective efficacy, I gathered the following nine measures from the 1990 U.S. Census Bureau⁶⁷: poverty (percent of families living below the poverty line), public assistance (percent of households receiving public assistance), family disruption (percent of female-headed families with children), unemployment (percent of the civilian labor force that is unemployed), homeownership (percent of owner-occupied housing units), and residential stability (percent of residents who lived in the same house five years prior (i.e., in 1985)). I also include several measures indicative of immigration. These

⁵ Community characteristics, including collective efficacy and legal cynicism, are based on where the homicide incident occurred.

⁶ Measures of residential stability were collected instead of measures of residential instability to be consistent with past tests of collective efficacy (e.g., Morenoff et al. 2001; Sampson et al. 1997). Original models included percent divorced males as a measure of family disruption, in order to fully test social disorganization theory. However, this measure was not significant in any of my models and bivariate statistics indicated that it was collinear with my immigrant concentration index, potentially causing problems with multicollinearity in my multivariate models. Furthermore, percent divorced males has not been found to be predictive of collective efficacy (e.g., Sampson et al. 1997) or homicide clearance (e.g., Borg and Parker 2001), therefore it was excluded from the analyses.

⁷ See Appendix A for variable calculations.

include: percent Hispanic residents, percent foreign-born, and percent Spanish-speaking.

Collective Efficacy

Collective efficacy was measured by combining respondents' answers to questions tapping neighborhood social cohesion and trust and informal social control from the PHDCN: CS. Informal social control was measured by respondents' answers to questions asking about the likelihood that neighbors would intervene if "(i) children were skipping school and hanging out on the street corner, (ii) children were spray-painting graffiti on a local building, (iii) children were showing disrespect to an adult, (iv) a fight broke out in front of their house, and (v) the fire station closest to their home was threatened with budget cuts" (Sampson et al. 1997, p. 919-920). Higher scores represent more willingness to engage in informal social control. Social cohesion and trust was measured by the respondents' answers on the extent to which they agree with the following statements: "people around here are willing to help their neighbors," "this is a close-knit neighborhood," "people in this neighborhood can be trusted," "people in this neighborhood generally don't get along with each other," and "people in this neighborhood do not share similar values" (the last two statements were reverse coded)" (Sampson et al. 1997, p. 920). Higher numbers on the index represent more social cohesion/trust.

Legal Cynicism

Following Kirk and Matsuda (2011), legal cynicism is measured based on respondents' answers from the PHDCN: CS to the following statements: "1) the police are not doing a good job in preventing crime in this neighborhood, 2) the police are not able to maintain order on the streets and sidewalks in the neighborhood, and 3) laws are made to be broken" (p. 454). Responses ranged from "strongly disagree" (1) to "strongly agree" (5), with higher scores indicating more legal cynicism⁸.

Control Variables

Consistent with other aggregate studies of criminal justice outcomes, I also control for the area population by including the natural log of the total number of residents living in each neighborhood cluster in 1990 (see e.g., Borg and Parker 2001). This is also theoretically meaningful as both Wirth (1938) and Wolfgang (1958) discuss the potential for more anonymous relationships in more heavily populated areas. With this greater anonymity, witnesses and police may be less likely to identify suspects (Felson 1998), and crimes may be less likely to be cleared. Despite the theoretical importance of controlling for area population, empirical results have been

⁸ Consistent with Kirk and Papachristos' (2011) revised conceptualization, I focus on cynicism of the law and the agents of its enforcement, as opposed to earlier conceptualizations of legal cynicism that also included elements of moral cynicism (e.g., Sampson and Bartusch 1998).

mixed regarding its impact on crime clearance outcomes, with some scholars finding that it has no impact (Borg and Parker 2001; Litwin 2004), whereas others find a negative relationship (Litwin and Xu 2007; Paré et al. 2007). In order to account for any potential influence, I control for population size in my analyses.

Methodological Issues

A preliminary exploration of the variables revealed serious problems with multicollinearity between the covariates. As such, principal components factor analysis was used to reduce the regressor space shared between variables (Land, McCall, and Cohen 1990). Factor analysis resulted in three unique factors: an economic deprivation index, an immigrant concentration index, and a residential stability index. These indices and their components are similar to previous tests of collective efficacy (e.g., Kirk and Matsuda 2011; Morenoff et al. 2001; Sampson et al. 1997). The *economic deprivation* index includes: percent of families living below the poverty line, percent of households receiving public assistance, percent of female-headed families with children, and percent of residents unemployed in the civilian labor force. The *immigrant concentration* index includes: percent of foreign-born residents who entered the U.S. in the past ten years, percent Spanish-speaking

residents, and percent Hispanic residents⁹. The third index, *residential stability*, includes percent of residents who lived in their same house five years prior (i.e., in 1985) and percent of homeowners. Each of these indices was created by weighting each index component by its factor loading. All of the resulting factors had Eigenvalues greater than one and factor loadings greater than 0.60 (with the exception of percent foreign-born which was .57). Results from the factor analysis, including the amount of variance that each factor can explain, as well as information on their component measures, and their corresponding factor loadings, are all presented in Table 1. Additionally, my informal social control and social cohesion and trust measures had high reliability across neighborhoods ($r=.88$)¹⁰. Therefore, I combined them into a single construct, *collective efficacy*, averaging respondents' answers from the two scales, for the final analyses. Collinearity diagnostics for these newly created factors indicated no problems (Kennedy 1998) and VIF results are presented at the bottom of Table 2.

Population size was log transformed in order to better fit the distribution and reduce skewness in the measure. I then ran a generalized linear model with the Poisson family and link log specified to assess problems with heteroskedasticity, or the non-

⁹ Although not included in Sampson et al.'s (1997) immigrant concentration index, I include percent Spanish-speaking because language barriers may impede successful homicide clearances in largely Hispanic areas (Alderden and Lavery 2007).

¹⁰ This is consistent with Sampson et al.'s (1997) reliability of $r=.80$.

constant variance of my error terms, and identify influential outliers. A normal probability plot of the residuals indicated no problems with heteroskedasticity. However, regression models were run with the robust standard errors option to account for any potential problems. I also graphed scatterplots of Cook's distance scores and the number of cases to identify potential outliers that may skew the results. After graphing, I excluded one NC with a Cook's distance score greater than 10. This resulted in a final sample of 308 neighborhoods used in the analyses.

Results

Descriptive Statistics

Descriptive statistics for the 308 neighborhoods included in this analysis are presented in Table 2. Neighborhood clusters in Chicago average approximately 8,000 residents, however they range anywhere from 2,000 to 25,000 residents per neighborhood. Neighborhoods exhibit a great deal of variation in homicide clearance rates ranging from zero to 100% cleared, and the average clearance rate across Chicago neighborhoods is 59.4%, slightly lower than the national average in the early 1990s (FBI 1996). The mean number of homicides per neighborhood is 2.76. Neighborhoods in Chicago also exhibit a good deal of variation with regards to their social and economic makeups. For example, the mean percent of families living below the poverty line is 20%, however neighborhoods range from less than one percent to over 80% of families living in poverty. On average, approximately 19% of households

receive public assistance, 15% of neighborhood residents are unemployed, and 20% of families with children have a female head of household. A mean level of 37% of housing units are owner occupied, although this varies from less than one percent to 92.5%. The mean percent of residents that have lived in their same house as five years prior is 55.8% across neighborhoods. On average, approximately 7.3% of neighborhood residents are foreign-born, 19.3% are Spanish-speaking, and 21% are of Hispanic origin. Neighborhoods are moderately efficacious with an average value of 3.41, although neighborhood levels of collective efficacy range from 2.55 to 4.48. Neighborhoods have slightly lower levels of legal cynicism, with an average value of 2.49 and a range of 1.55 to 3.06.

Table 3 presents the zero-order correlations between all of the variables used in the final analyses. There is a moderately high and significant correlation between collective efficacy and economic deprivation (-.65) and between collective efficacy and residential stability (.51). There is also a moderately high and significant correlation between legal cynicism and economic deprivation (.64) and between legal cynicism and collective efficacy (-.67). There are low correlations between all other predictor variables.

Analytic Strategy

Previous tests of collective efficacy use a multi-level modeling technique because of the nested nature of the data. That is, the data allow individual respondents

to be grouped within the neighborhoods where they lived. This type of model takes into account that respondents living in the same neighborhoods would likely provide similar responses to questions and also allows researchers to analyze both within-neighborhood and between-neighborhood differences. A multi-level test of collective efficacy, therefore, requires an individual-level dependent variable. However, the dependent variable in this study is homicide clearance, therefore, the unit of analysis is the aggregated “neighborhood cluster” level.

Additionally, due to the rare nature of both homicides and homicide clearances, a Poisson-based estimation approach was used. This approach is more appropriate than employing an Ordinary Least Squares regression with homicide clearance rates because of the highly skewed distribution of my dependent variable¹¹. Specifically, I used the negative binomial variant of the Poisson-distribution because of overdispersion of my dependent variable, the homicide clearance count. Furthermore, both the Deviance Goodness of Fit and the Pearson Goodness of Fit tests were significant, indicating that the negative binomial variant was a better option. I was also able to modify the traditional negative binomial count model to a rate by offsetting the regression equation by the population at risk (i.e., the total number of homicides known to police) (Osgood 2000). A negative binomial regression was used in all multivariate analyses except for the first model predicting collective efficacy

¹¹ I also tried logging the homicide clearance rate, but this transformed variable was still highly skewed.

(i.e., Table 4). An ordinal logistic regression was used in this model instead, due to the ordered response categories of the dependent variable. Results of my multivariate analyses are discussed in detail below.

Regression Results

Predictors of Collective Efficacy

Table 4 presents results from the ordinal logistic regression predicting collective efficacy. All results are significant in the expected direction. Specifically, economic deprivation, immigrant concentration, and legal cynicism are negatively associated with collective efficacy and residential stability is positively associated with collective efficacy, as predicted. These findings are also consistent with past studies of collective efficacy (e.g., Kirk and Matsuda 2011; Kirk and Papachristos 2011; Sampson et al. 1997). Establishing these as predictors of collective efficacy in my data is crucial for later tests of mediation.

Direct Effects of Structural Characteristics on Homicide Clearance

Table 5 presents results from the negative binomial regression predicting homicide clearance. Model 1 shows the direct effects of structural characteristics on homicide clearance rates, controlling for population size. Results indicate that all three structural features included in this analysis have statistically significant direct effects on homicide clearance rates, although some are in the opposite direction as

hypothesized. As predicted, economic deprivation and population size are significantly associated with a decrease in the homicide clearance rate. However, residential stability is also associated with a decrease in the homicide clearance rate, opposite of what was hypothesized. Furthermore, results also indicate that immigrant concentration significantly increases homicide clearance. For ease of interpretation, I calculate the standardized effect of a one standard deviation change in each independent variable on the homicide clearance rate (Maume and Lee 2003)¹². Specifically, a one standard deviation increase in the economic deprivation index is associated with a 59.7% decrease in the homicide clearance rate. A one standard deviation increase in the residential stability index is associated with an 18.9% decrease in the homicide clearance rate. A one standard deviation change in the immigrant concentration index and the population size are associated with a 14.5% increase and a 45.3% decrease in the homicide clearance rate, respectively. These results provide partial support for the hypothesis that structural characteristics have direct effects on homicide clearance rates. Specifically, the hypothesis that economic deprivation decreases homicide clearance rates is supported, but the hypotheses that residential stability increases homicide clearance rates and that immigrant concentration decreases homicide clearance rates are not supported.

¹² Following Maume and Lee (2003), I calculate this effect by using the formula $((e^{b_k \cdot S_k}) - 1) \cdot 100$ “where b is the coefficient associated with the k th variable and S is the standard deviation of the variable of interest” (p. 1160).

Direct Effects of Collective Efficacy on Homicide Clearance

Model 2 in Table 5 shows the effects once collective efficacy is added to the model. Specifically, I focus on the direct effect of collective efficacy, net of structural predictors and population size. Adding collective efficacy to the model provides a better fit to the data than Model 1, as indicated by the log likelihood closer to zero. Results show that collective efficacy does have a strong and significant positive effect on the homicide clearance rate, where a one standard deviation increase in collective efficacy is associated with a 32.8% increase in the homicide clearance rate. This finding provides support for my second hypothesis that collective efficacy has a direct positive effect on homicide clearance rates.

Collective Efficacy as a Mediator of Structural Characteristics

Because homicide clearance is a count variable and my mediators (i.e., collective efficacy and legal cynicism) are ordinal, I was not able to use traditional tests for mediation (e.g., Sobel-Goodman test; Structural Equation Modeling) because these tests rest on Ordinary Least Squares (OLS) assumptions. Instead, I test for mediation following previous studies that have not been able to use these approaches (e.g., Booth and Osgood 1993; Maume and Lee 2003), including previous research that has established collective efficacy as a mediator (e.g., Kirk and Matsuda 2011; Sampson et al. 1997). Specifically, in order to test for potential mediation between structural characteristics, collective efficacy, and homicide clearance counts, I first

analyzed the correlations between the neighborhood characteristics and collective efficacy. As discussed above, the correlation between collective efficacy and my two main predictors of interest, economic deprivation and residential stability, are moderately high (i.e., -.65 and .51, respectively). After establishing a correlation between my structural predictors and collective efficacy, I then ran a series of regression models assessing changes in significance and coefficients of economic deprivation and residential stability once collective efficacy was added to the model. I am able to infer partial mediation if there is a significant correlation between the independent variable and the mediator and then the effect of the independent variable is weakened once the mediator is added to the model. Evidence of a partial mediation effect can also be demonstrated by calculating the percent change in regression coefficients from the baseline model to the full model.

Following the above procedure, Model 2 shows that collective efficacy partially mediates the relationship between economic deprivation and homicide clearance, as hypothesized. Although adding collective efficacy to the model did not reduce the significance level of the economic deprivation index, the effect of a one standard deviation increase in economic deprivation on the homicide clearance rate was reduced from -59.7% to -53.4%, or a 10.6% decrease. However, it does not appear that collective efficacy mediates the relationship between residential stability and homicide clearance. In fact, adding collective efficacy to the model actually increased the negative effect of residential stability on homicide clearance, from -18.9% to -25.2%. As such, these results only partially provide support for my

hypothesis that collective efficacy mediates the relationship between structural features and homicide clearance rates.

Direct Effects of Legal Cynicism on Homicide Clearance

In Model 3, I replace collective efficacy with legal cynicism to determine the direct effects of legal cynicism on homicide clearance rates, net of structural predictors and area population. I do not step legal cynicism into the previous model with collective efficacy (i.e., Model 2) because I am interested in establishing a baseline model with legal cynicism as the main predictor of interest in order to test possible competing social mechanisms linking structural characteristics to homicide clearance. Results indicate a significant negative relationship between legal cynicism and homicide clearance rates. Specifically, a one standard deviation increase in legal cynicism is associated with a 29.2% decrease in the homicide clearance rate. These results provide support for the hypothesis that legal cynicism has a direct negative effect on homicide clearance rates.

Legal Cynicism as a Mediator of Structural Characteristics

Using the same strategy to assess potential mediation discussed above, Model 3 also shows that legal cynicism appears to partially mediate the negative effects of economic deprivation and residential stability on homicide clearance rates. That is, the effect of a one standard deviation increase in economic deprivation on the homicide

clearance rate was reduced from -59.7% to -50.1%, or a 16.1% decrease, once legal cynicism was added to the model. Additionally, the effect of a one standard deviation increase in residential stability on the homicide clearance rate was reduced from -18.9% to -16.1%. These findings provides support for the hypothesis that legal cynicism partially mediates the relationship between structural features and homicide clearance rates.

The Full Model

Model 4 presents results from the full model, including both collective efficacy and legal cynicism, while also controlling for structural predictors and population size. Economic deprivation, residential stability, immigrant concentration, and population size remain significant, even when controlling for collective efficacy and legal cynicism, indicating that at least some of the effect of each of these predictors on homicide clearance rates is independent of these social mechanisms. Additionally, legal cynicism remains significant, but the effect of collective efficacy is no longer significant. One possible interpretation is that legal cynicism may partially mediate the relationship between collective efficacy and homicide clearance rates. That is, part of the effect of collective efficacy on homicide clearance may be indirect via its impact on legal cynicism. These results need to be interpreted with caution, however, due to the high correlation between these variables (-.67). Although collinearity diagnostics indicated no problems, the drop in significance for collective efficacy may alternatively be attributable to multicollinearity between these variables.

Discussion

Results from this study provide strong support for the argument that neighborhoods and community members matter in the successful clearance of homicides. Sampson (2008) argues that collective efficacy is situational, that is, it “exists relative to specific tasks” (p. 152). It appears that the neighborhood mechanism of collective efficacy exists in relation to police clearance of homicides. Specifically, results indicate that there are several ways in which collective efficacy may impact homicide clearance rates. First, collective efficacy has a significant and positive direct effect on homicide clearance rates. Second, collective efficacy partially mediates the relationship between economic deprivation and homicide clearance rates. Finally, collective efficacy may have an indirect effect on homicide clearance rates through its impact on legal cynicism.

Results also indicate that there are multiple pathways through which legal cynicism impacts homicide clearance rates. That is, legal cynicism has a significant and negative direct effect on homicide clearance rates, and also partially mediates the effects of structural characteristics on homicide clearance rates. Therefore, results from this research have established the importance of both collective efficacy and legal cynicism on homicide clearance rates, both as direct predictors and as mediators of structural features of neighborhoods, underscoring the importance of considering the effects of these social mechanisms on formal social control outcomes. Future

research should also try to conceptually and theoretically disentangle the link between the two.

These findings also suggest that structural features of neighborhoods are important predictors of homicide clearance, above and beyond their effects through collective efficacy and legal cynicism. As hypothesized, economic deprivation significantly decreases the likelihood of homicide clearance. Additionally, although not in the directions hypothesized, residential stability and immigrant concentration both have direct effects on homicide clearance rates. Furthermore, these findings are consistent across models. This underscores the importance of considering the community context in which homicide investigations occur in future studies of homicide clearance.

Perhaps the most surprising finding is that residential stability is associated with a decrease in the homicide clearance rate, especially considering that previous research has either found no effect (Mustaine et al. 2012; Ousey and Lee 2010; Regoeczi and Jarvis 2013) or that residential stability increases homicide clearance (Borg and Parker 2001; Litwin 2004). Furthermore, my residential stability index was operationalized using the exact same measures as previous studies (i.e., percent homeowners and percent residents who live in the same house as 5 years prior), thus disparate findings are not attributable to a measurement specification error. The finding that collective efficacy does not appear to mediate the relationship between residential stability and homicide clearance rates is also surprising given Sampson's (2008) discussion of the importance of repeated interactions for generating collective

efficacy. One would think that in areas with more residential stability and higher probabilities of future interactions, residential stability would be an important element in the formation and activation of collective efficacy towards specific tasks. However, it is possible that less homicides occur in more stable communities and therefore just a few unsolved homicides may have a larger impact on the overall homicide clearance rate.

Conclusion

This thesis attempts to fill an important gap in the literature by theorizing and empirically testing the relationship between structural features, collective efficacy, and homicide clearance rates in Chicago neighborhoods. It has been well-established that collective efficacy has several positive effects on the community, including decreasing the negative effects of structural disadvantage on crime rates and public health issues (e.g., Browning and Cagney 2002; Cohen et al. 2006). Additionally, there has been a significant amount of scholarly attention directed towards the impact of collective efficacy on reducing crime rates, however, less is known about how this type of informal social control may affect formal social control outcomes (e.g., arrest, clearance, prosecution) (but see Kirk and Matsuda 2011; Mustaine et al. 2012; Regoeczi and Jarvis 2013 for important exceptions). Part of the impetus behind this thesis was to advance our theoretical understanding of collective efficacy by testing its effects on an outcome that has yet to be explored, homicide clearance rates.

Furthermore, by using the same dataset (i.e., the PHDCN) and similar measures as previous tests of collective efficacy, I reduce the possibility that my findings are due to measurement specification errors, while also allowing my results to be more comparable with previous tests of collective efficacy (e.g., Kirk and Matsuda 2011; Morenoff et al. 2001; Sampson et al. 1997).

Additionally, there has also been very little research on the role that neighborhood context plays in police clearance of homicide incidents. This study serves to enhance our overall understanding of factors that impact clearance rates in an urban context. Not only do low clearance rates have negative consequences for the victims' friends and family members and the police, but on the community, as well. For example, in areas with low clearance rates fear of crime increases and trust between neighbors is weakened. Property values might decrease in neighborhoods with high rates of unsolved crimes, furthering the disorganization in the neighborhood. Research has also found that previous neighborhood violence suppresses later collective efficacy (e.g., because it increases fear) (Sampson et al. 1997). Low clearance rates may also heighten fear among residents, and suppress future levels of collective efficacy. Particularly in already disadvantaged neighborhoods where violent crimes are highest and crimes are least likely to be cleared, low clearance rates add another aspect of inequality that residents must face. As such, future research should also consider potential nonrecursive relationships between structural features, collective efficacy, and homicide clearance rates.

In addition to being theoretically meaningful, the results of this research have practical implications, as well. Despite recent advances in technology, crime clearance still hinges on information provided by witnesses and/or victims, therefore focusing on the mechanisms that promote and hinder cooperation with police can have significant outcomes on crime clearance. With questions of where departmental resources should be allocated, it may be fruitful for departments to focus more time and money on enhancing the level of collective efficacy in the neighborhood and restoring police-citizen relations, more so than investing money in additional technologies. Researchers and the community should focus on ways that both police and neighborhood residents can foster, maintain, and enhance collective efficacy. This is likely to have additional benefits beyond just increasing homicide clearance rates, including empowering the community, enhancing the quality of life in the neighborhood, reducing legal cynicism, and potentially even contributing to increased levels of collective efficacy in the future. Morenoff et al. (2001) found that more local organizations were associated with higher levels of collective efficacy, and these organizations may foster collective efficacy because they encourage members to engage in common goals, such as fundraising and organizing events (Sampson 2013). Increasing collective efficacy (and homicide clearance rates as an outcome), contributes to a safer environment for residents because the offender is not out on the streets, and should also serve as a deterrent for potential future criminals. If potential murderers know that they are likely to get caught, they may be less likely to commit a homicide, contributing to a safer environment for all. Conversely, less safe neighborhoods are likely to contribute to a

decline in property values, outmigration by residents who can afford to move, and a whole host of other problems that may perpetuate disadvantage in some neighborhoods. The extant literature has documented that certain incident characteristics, such as homicides committed by strangers or with firearms are far less likely to be cleared (e.g., Litwin 2004; Litwin and Xu 2007; Regoeczi et al. 2000). While there is little that police and community members can do about the characteristics of individual homicide incidents, they can work together to build collective efficacy in their neighborhoods. In fact, one of the defining features of collective efficacy is its emphasis on agency (Sampson 2008). Furthermore, with witness cooperation a key component to a successful homicide investigation, it is imperative that relationships between police and citizens in these neighborhoods are restored. It appears that one way to do this is to increase the level of collective efficacy in the neighborhood. However, it is also important to note that while collective efficacy allows for neighborhood residents to exercise agency, structural barriers, such as economic deprivation and high residential turnover, hinder the formation of collective efficacy (Sampson 2008, p. 155). As such, it is also important to continue to find ways to reduce structural disadvantage in neighborhoods.

Considering important racial and ethnic differences in police-citizen relations in predominately African-American and predominately Latino neighborhoods, it may also prove especially fruitful to explore the relationship between collective efficacy, legal cynicism, and homicide clearance rates in these neighborhoods. A consistent finding in much of the literature is that residents in predominately African-American

neighborhoods tend to distrust the police due to the style of policing in these neighborhoods as compared to predominately White neighborhoods (e.g., Anderson 1999; Skogan 2006; Puckett and Lundman 2003). Additionally, research has found that Latinos have unique relationships with police, due to factors such as anti-immigration sentiments and language barriers hindering successful relationships (e.g., Alderden and Lavery 2007; Briggs and Opsal 2012).

Although these findings are interesting, a discussion of the limitations and subsequent directions for future research is warranted. First, I was not able to account for spatial autocorrelation, or the potential interdependency between neighboring communities, and previous studies have found that the level of collective efficacy in a neighborhood is related to the levels of collective efficacy in surrounding neighborhoods (e.g., Morenoff et al. 2001; Sampson, Morenoff, and Earls 1999). However, there have also been a number of other studies that have tested collective efficacy using the same dataset that have not accounted for spatial autocorrelation (e.g., Kirk and Matsuda 2011; Sampson et al. 1997).

Second, the homicide and homicide clearance rates were based on a three-year average from 1993 to 1995, but the collective efficacy and legal cynicism data was collected in 1994 and 1995, creating a temporal ordering issue between the dependent variable and the main independent variables of interest. Future research should test these arguments using homicide and homicide clearance data that was collected after the PHDCN was conducted (e.g., 1996-1998).

Third, these results are only applicable to *homicide* clearance, and results are not generalizable to other crime types. Past research has found that the factors that impact clearance may vary by crime type (e.g., Mustaine et al. 2012; Paré et al. 2007; Roberts 2008). For example, Roberts (2008) found that community characteristics differentially impacted clearance for sexual offenses compared to other types of nonsexual violent offenses. Homicides are also not subject to reporting issues as readily as other crimes and community members may be more willing to intervene in more serious instances. As such, collective efficacy may play a very different role in police clearance of other types of crimes, and future research should consider the impact of collective efficacy for other, less serious, crimes.

Fourth, because this research focused specifically on homicide clearance in Chicago neighborhoods in the early 1990s, results are not generalizable to other locales or other time periods. Several major changes occurred in the 1990s, including the implementation of community policing in Chicago in 1993 (Skogan 2006), which could potentially affect both legal cynicism and clearance rates¹³. Because policing is largely reactive, especially when it comes to clearing crimes, police rely heavily on information from victims and witnesses. The potential impact of more proactive policing strategies, such as community policing that started in Chicago in the mid-

¹³ A Chicago community policing initiative (CAPS) was implemented in Chicago in five test districts in 1993 and was expanded to all 25 districts in 1994 and 1995. However, it was essentially over by 1999 (Skogan 2006).

1990s should be considered. Other major shifts occurred around this same time, as well, including the unprecedented decline in violent crime rates in the early 1990s (e.g., Blumstein and Wallman 2006; Zimring 2007). Therefore, future research should also test these arguments in other locales and time periods.

Furthermore, one of the key features of ecological studies is the dynamic nature of neighborhoods. The social mechanisms linking structural features to various outcomes (e.g., collective efficacy and legal cynicism) are also not static, but can be “shaped and reshaped by neighborhood conditions and direct and vicarious experiences with agents of the law” (Kirk and Papachristos 2011, p. 1202). As such, future research needs to consider how changes in social and economic conditions, collective efficacy, and legal cynicism may affect changes in clearance rates over time. This is an especially salient inquiry as clearance rates have declined dramatically since the 1960s. From the 1960s to present, we have also seen major shifts in the urban economy, police practices, demographic composition, and crime rates, which may contribute to this decline in clearance rates over time.

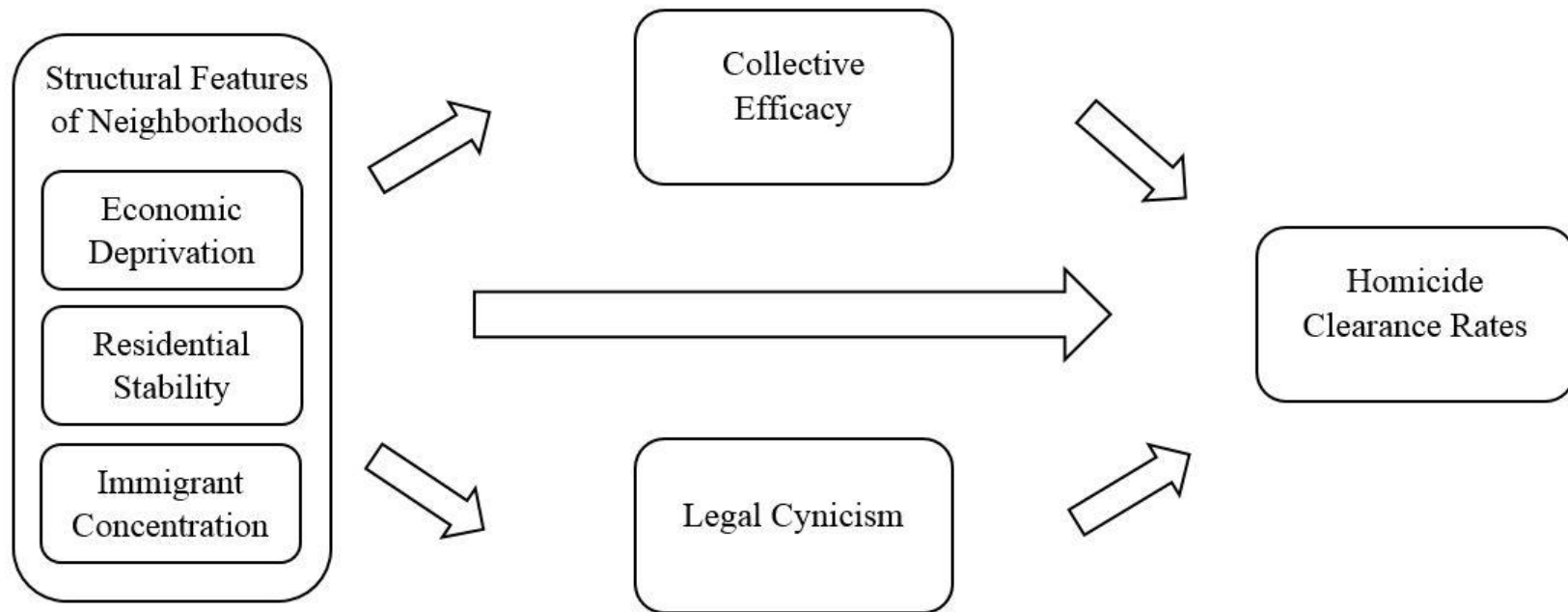
Finally, I was not able to capture any organizational characteristics (e.g., police force size or department workload) which may impact homicide clearance rates. It is likely that the number of police officers and amount of resources allocated to crime prevention and investigation vary greatly by neighborhood, even within the same jurisdiction (e.g., due to hot spots policing or other targeted policing initiatives). However, research tends to find that departmental resources do not play a significant role in homicide clearance outcomes (e.g., Litwin 2004; Ousey and Lee 2010; Paré et

al. 2007; Puckett and Lundman 2003; Roberts 2008). The one exception is Borg and Parker (2001), who found that homicide clearance rates were higher in cities with lower homicide rates. Despite their lack of significance in a number of studies, future research should still control for these and other factors that have been found to impact homicide clearance (e.g., victim or incident characteristics), in order to isolate the effects of collective efficacy.

Despite the above limitations, this research has contributed to our growing understanding of the positive effects of collective efficacy, negative effects of legal cynicism, and knowledge about the factors impacting police clearance of crimes. Additionally, I have provided several avenues for future research. As such, it is my hope that this thesis serves as a springboard for future inquiries in this and related lines of research.

FIGURES

Figure 1 A Conceptual Model of the Direct and Indirect Effects of Factors Impacting Homicide Clearance Rates.



TABLES

Table 1 Principal Access Factor Analysis of Chicago Neighborhood 1990 Census Variables after Oblimin Oblique Rotation (N=309).*

Variable	Factor Loading	Variance Explained
<i>Economic Deprivation</i>		52.34%
Families below poverty line	.9213	
Households on public assistance	.9667	
Unemployment	.9506	
Female-headed w/ children	.9447	
<i>Immigrant Concentration</i>		31.76%
Spanish-speaking	.9911	
Hispanic	.9879	
Foreign-born	.5703	
<i>Residential Stability</i>		17.89%
Same house in 1985	.7967	
Owner-occupied housing units	.6919	

*Eigenvalues > 1.0

Table 2 Descriptive Statistics of Dependent and Predictor Variables Included in Final Models (N=308).

Variables and Index Components	Mean	Std. Dev.	Median	Min	Max
Homicide Clearance Rate ^a	59.37	26.36	60.00	0.00	100.00
Homicide Clearance Counts	1.64	1.42	1.33	0.00	7.00
Homicide Counts	2.76	2.31	2.00	.333	11.67
Economic Deprivation Index	69.86	48.33	56.41	6.69	264.90
% Families below Poverty Line	20.19	13.78	17.03	.486	80.69
% Households on Public Assistance	18.86	15.11	13.84	1.02	77.26
% Unemployed	14.69	9.39	12.58	2.05	52.01
% Female-Headed w/ Children	20.17	14.88	15.51	1.33	77.96
Residential Stability Index	70.18	22.86	66.57	26.18	128.90
% Owner-occupied Housing Units	37.21	22.35	32.52	.532	92.50
% Same House as in 1985	55.78	12.75	56.09	26.73	82.42
Immigrant Concentration Index	44.32	53.90	17.47	.703	200.75
% Foreign-Born	7.29	8.42	3.95	0.00	37.23
% Spanish-Speaking	19.26	24.29	5.76	0.00	91.37
% Hispanic	21.33	27.08	7.08	.120	95.83
Collective Efficacy	3.41	.330	3.40	2.55	4.48
Legal Cynicism	2.49	.311	2.54	1.55	3.06
Population Size	8,090	2,924	7,852	2,279	25,231

Population Size (log)	8.93	.378	8.97	7.73	10.14
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^a calculated using a 3-year average (1993-1995)

Note: Multicollinearity is not an issue; highest VIF=2.74; mean=2.00.

Table 3 Zero-Order Correlations between Chicago Neighborhood-Level Predictors and Homicide Clearance Rates (N=308).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Homicide Clearance Rate	1						
(2) Economic Deprivation	.0352	1					
(3) Residential Stability	-.1121*	-.2915*	1				
(4) Immigrant Concentration	.1064	-.1868*	-.2774*	1			
(5) Collective Efficacy	-.0823	-.6445*	.5079*	-.1599*	1		
(6) Legal Cynicism	.1031	.6443*	-.2640*	.2016*	-.6709*	1	
(7) Population Size (log)	-.0765	-.2707*	-.0882	-.0417	.1270*	-.2423*	1

*p<.05

Table 4 Ordered Logistic Regression Predicting Collective Efficacy. Odds Ratio and (Robust Standard Errors) Reported (N=308).

	Odds Ratio	Robust SE	z statistic
Economic Deprivation	.9772***	(.004)	-5.17
Residential Stability	1.035***	(.006)	6.30
Immigrant Concentration	.9956*	(.002)	-2.19
Population Size (log)	.7724	(.233)	-0.86
Legal Cynicism	.0446***	(.022)	-6.25

Log Likelihood	-1615.27		
Pseudo R ²	.0823***		
BIC	4995.41		

***p<.001; **p<.01; *p<.05

Table 5 Negative Binomial Regression Predicting Homicide Clearance Counts, Offset by Total Homicide Counts. Coefficients and (Robust Standard Errors) Reported (N=308).

Variable	Model 1	Model 2	Model 3	Model 4
Economic Deprivation	-.0188*** (.002)	-.0158*** (.003)	-.0144*** (.003)	-.0133*** (.003)
Residential Stability	-.0092** (.003)	-.0127*** (.004)	-.0077* (.004)	-.0102** (.004)
Immigrant Concentration	.0025* (.001)	.0033** (.001)	.0044** (.001)	.0046** (.001)
Population Size (log)	-1.594*** (.194)	-1.569*** (.194)	-1.604*** (.188)	-1.587*** (.188)
Collective Efficacy	---	.8606** (.331)	---	.5453 (.356)
Legal Cynicism	---	---	-1.110*** (.333)	-.8955* (.365)
Constant	13.42*** (1.84)	10.27*** (2.18)	15.80*** (1.82)	13.36*** (2.31)

Log Likelihood	-560.55	-558.03	-556.76	-555.86

Wald	110.69***	115.84***	161.52***	159.39***
***p<.001; **p<.01; *p<.05				

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Appendix A

CODEBOOK/VARIABLE CALCULATIONS AND DATA SOURCES

Economic Deprivation Index:

% Family Poverty: (# families with income in 1989 below poverty level/total # families)*100 (source: NHGIS STF3 file)

% Households Receiving Public Assistance: (# households receiving public assistance income in 1989/total households)*100 (source: NHGIS STF3 file)

% Unemployment: (# unemployed in civilian labor force/total # in civilian labor force)*100 (source: NHGIS STF3 file)

% Female-Headed Households with Children: (# female householder, no husband present with own children under 18 years/total family households)*100 (source: NHGIS STF3 file)

Residential Stability Index:

% Homeownership: (# owner-occupied housing units/total housing units)*100 (source: NHGIS STF1 file)

% Residential Stability: (# residents living in same house in 1985/total residents 5+ years of age)*100 (source: NHGIS STF3 file; resident population comes from STF1 file)

Family Disruption:

% Divorced Males: (# divorced males/total male population 15+ years of age)*100 (source: NHGIS STF1 file)

Immigrant Concentration Index:

% Foreign-Born: (# foreign-born persons who entered the U.S. from 1980 to 1990/total population)*100 (source: NHGIS STF3 file; total population comes from STF1 file)

% Spanish-Speaking: (# residents where Spanish is spoken in home/total population 5+ years of age)*100 (source: NHGIS STF3 file; resident population comes from STF1 file)

% Hispanic: (# Hispanic, any race/total population)*100 (source: NHGIS STF1 file)

Total Population: total persons (source: NHGIS STF1 file)

% Black: (# non-Hispanic Black/total population)*100 (source: NHGIS STF1 file)

% White: (# non-Hispanic White/total population)*100 (source: NHGIS STF1 file)

Collective Efficacy: social cohesion/trust + informal social control (source: PHDCN: CS)

Social Cohesion/Trust: index of mean responses to the following items with higher scores indicating more social cohesion/trust (1=Strongly Disagree, 2=Disagree, 3=Neither Agree nor Disagree, 4=Agree, 5=Strongly Agree):

1. This is a close-knit neighborhood
2. People around here are willing to help their neighbors
3. People in neighborhood generally don't get along with each other (reverse coded)
4. People in neighborhood don't share same values (reverse coded)
5. People in neighborhood can be trusted

Informal Social Control: index of mean responses to the following items with higher scores indicating more informal social control (1=Very Unlikely, 2=Unlikely, 3=Neither Unlikely nor Likely, 4=Likely, 5=Very Likely):

1. Neighbors would do something if a group of neighborhood children skip school and hang out on the street corner
2. Neighbors would do something if some children spray-paint graffiti on a local building
3. People in neighborhood would scold child if child shows disrespect to an adult
4. Neighbors would break up a fight in front of your house where someone was being beaten or threatened
5. Neighborhood residents would organize to keep closest fire station open if it were to be closed down by city because of budget cuts

Legal Cynicism: index of mean responses to the following items with higher scores indicating more legal cynicism (1=Strongly Disagree, 2=Disagree, 3=Neither Agree nor Disagree, 4=Agree, 5=Strongly Agree) (source: PHDCN: CS)

1. Laws are made to be broken
2. Police are not doing a good job in preventing crime in neighborhood
3. Police are not able to maintain order on streets and sidewalks in neighborhood

Homicide Clearance Rate: (# homicides cleared by arrest/total homicides known to police)*100 (1993-1995 average) (source: CHD victim-level file)

Appendix B

INSTITUTIONAL REVIEW BOARD APPROVAL LETTERS



RESEARCH OFFICE

210 Hullihen Hall
University of Delaware
Newark, Delaware 19716-1551
Ph: 302/831-2136
Fax: 302/831-2828

DATE: March 26, 2014

TO: Ashley Mancik, BA
FROM: University of Delaware IRB

STUDY TITLE: [579165-1] Community Context and Homicide Clearance Rates: A
Consideration of the Efficacy of Collective Efficacy

SUBMISSION TYPE: New Project

ACTION: APPROVED

APPROVAL DATE: March 11, 2014

EXPIRATION DATE: March 10, 2017

REVIEW TYPE: Exempt Review

REVIEW CATEGORY: Expedited review category # 4

Thank you for your submission of New Project materials for this research study. The University of Delaware IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Exempt Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

If you have any questions, please contact Nicole Farnese-McFarlane at (302) 831-1119 or nicolefm@udel.edu. Please include your study title and reference number in all correspondence with this office.



RESEARCH OFFICE

210 Hullihen Hall
University of Delaware
Newark, Delaware 19716-1551
Ph: 302/831-2136
Fax: 302/831-2828

DATE: April 7, 2014

TO: Karen F. Parker, Ph.D., and Ashley Mancik, B.A.
FROM: University of Delaware IRB

STUDY TITLE: [579165-1] Community Context and Homicide Clearance Rates: A
Consideration of the Efficacy of Collective Efficacy

SUBMISSION TYPE: New Project

ACTION: APPROVED

APPROVAL DATE: April 7, 2014

EXPIRATION DATE: April 6, 2015

REVIEW TYPE: Expedited Review

REVIEW CATEGORY: 45 CFR 46.110 (7)

Thank you for your submission of New Project materials for this research study. The University of Delaware IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

Based on the level of review, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

If you have any questions, please contact Maria Palazuelos at (302) 831-8619 or mariapj@udel.edu. Please include your study title and reference number in all correspondence with this office.



RESEARCH OFFICE

210 Hullihen Hall
University of Delaware
Newark, Delaware 19716-1551
Ph: 302/831-2136
Fax: 302/831-2828

DATE: April 2, 2015

TO: Ashley Mancik, BA
FROM: University of Delaware IRB

STUDY TITLE: [579165-2] Community Context and Homicide Clearance Rates: A
Consideration of the Efficacy of Collective Efficacy

SUBMISSION TYPE: Continuing Review/Progress Report

ACTION: APPROVED

APPROVAL DATE: April 2, 2015

EXPIRATION DATE: April 6, 2016

REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # (7)

Thank you for your submission of Continuing Review/Progress Report materials for this research study. The University of Delaware IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

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All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

If you have any questions, please contact Nicole Farnese-McFarlane at (302) 831-1119 or nicolefm@udel.edu. Please include your study title and reference number in all correspondence with this office.