

The Unemployment-Crime Relationship Revisited: Do Neighborhoods Matter?

by

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ABSTRACT

Although much has been done to examine the relationship between unemployment and crime, little consideration has been given to the impact neighborhood-level factors such as informal social control may have on the strength of unemployment as a predictor of crime. The present study seeks to fill this gap by assessing whether the declining crime rates over a period of surging unemployment under the financial crisis are due to unchanged levels of informal social control. To examine these relationships, the present study utilizes data from Uniform Crime Reports (UCR), calls for service to the police, and the United States Census and American Community Survey. These data are longitudinal in nature covering the period 2007-2011 and are all related to Glendale, Arizona. The results indicate that the financial crisis predicts lower rates of property crimes as well as lower rates of calls for service relative to UCR crimes. Additionally, the present study finds that unemployment is a significant predictor of increases in UCR property crime, UCR violent crime, and engagement in each of my measures of informal social control.

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INTRODUCTION

Although the economic conditions of the recessionary years from 2007-2009 boasted the worst economic decline in the post-world war era (Elsby, Hobijn, Sahin, 2010), crime rates continued to drop precipitously during the period (United States Department of Justice, Federal Bureau of Investigation, 2012a, 2012b), leaving scholars to speculate on what causal factors may be at work (Uggen, 2012; Wilson, 2011). Indeed, these years produced increases in factors associated with inflations in the crime rate, such as a spike in the number of foreclosed homes in conjunction with a steady rise in the unemployment rate; counterintuitively, the crime rate continued to decline over the period. Although scholars have examined the impact of the housing crisis on crime and its correlates (Katz, Wallace, & Hedberg, 2011; Pfeiffer, Wallace, Chamberlain, 2014; Wallace, Hedberg, and Katz, 2012), the effect of unemployment over this period has been largely ignored. This oversight may be due to the complexities associated with the unemployment-crime (U-C) relationship.

Throughout the literature, the U-C relationship has been contentious, given that studies show increases, decreases, or null effects of unemployment on crime depending on what elements of routine activities theory are captured by the research (Cantor & Land, 1985; Paternoster & Bushway, 2001; Phillips & Land, 2012). Although studies have examined constituents of both motivation and opportunity (Cantor & Land, 1985; Cook & Zarkin, 1985; Paternoster & Bushway, 2001), none have fully considered what role neighborhood-level guardianship plays in mitigating the U-C relationship. More specifically, no study has examined whether inconsistencies in the U-C relationship are

due to a neighborhood's ability to stave off increases in the crime rate by maintaining organization through consistent levels of informal social control.

The importance of informal social control in preventing and deterring crime has been widely documented (Bursick & Grasmick, 1993; Sampson, Raudenbush, & Earls, 1997; Sampson, 2012). Additionally, unemployment has been associated with factors known to erode informal social control such as decreases in collective efficacy or increases in the accumulation of disorder cues (Sampson & Groves, 1989; Sampson, 2012; Shaw & McKay, 1942). Often, however, the association between unemployment and informal social control throughout the literature has been somewhat indirect in nature with studies linking it to the factors that encourage the clustering of social disorganization variables such as low-socioeconomic status, ethnic heterogeneity, and residential mobility (Sampson & Groves, 1989; Sampson, 2012; Shaw & McKay, 1942). What has not been considered, however, is whether or not unemployment is a salient predictor of changes in the levels of informal social control absent these other factors.

The current financial crisis lends itself to the testing of this relationship because of the distribution of those adversely impacted by increases in the unemployment rates. Indeed, although periods of mass unemployment have tended to most harshly impact neighborhoods characterized by disadvantage (Skogan, 1986; Wilson, 1987; Wilson, 1996), the recent financial crisis was more evenly distributed across social class (Taylor, et al., 2010). Given the relationship between social class and neighborhood disorganization (Sampson & Groves, 1989; Shaw & McKay, 1942), it is reasonable to assume that if unemployment was more evenly distributed across social class during the financial crisis then it would also be more evenly distributed across neighborhood type as

well. Further, if the financial crisis was more proportionately spread across both social class and neighborhood, it is reasonable to infer that increases in crime at the neighborhood level would not occur as long as increases in the unemployment rate did not alter levels of informal social control. This is the central premise of this study.

The present study, therefore, contributes to the existing literature on both unemployment and informal social control by examining whether shifts in the levels of unemployment during or after the financial crisis impact instances of UCR crimes or erode levels of informal social control. Specifically, I examine how unemployment in the financial crisis influences levels of informal social control relative to levels of reported crime. To fully assess these relationships, I have developed several hypotheses that examine these relationships. Each of these hypotheses are tested using data from three sources: the U.S. census and American Community Survey, Uniform Crime Reports (UCR), and calls for service (CFS) to the police. In the coming sections, I will first outline relevant relationships by reviewing the literature on the subject. Utilizing the expected relationships as outlined in the literature, I will next describe hypotheses as well as the data and methods employed to measure these hypotheses. Finally, I will summarize the relevant findings as well as discuss the implications of the present study.

UNEMPLOYMENT AND CRIME: A REVIEW OF THE LITERATURE

Research on the relationship between unemployment and crime has yielded mixed findings. Specifically, studies have shown support for positive, negative, and null relationships between unemployment and crime rates. These convoluted findings led Cantor and Land (1985) to reassess this relationship, and to ultimately suggest that

unemployment has a mixed effect on crime through the competing nature of motivation and opportunity under routine activities theory.

According to routine activities theory, crime occurs when a motivated offender encounters a suitable target in the absence of a capable guardian (Cohen & Felson, 1979). Crime outcomes are dependent on how each of the elements under routine activities theory are influenced by the economic trends, and many of these trends are associated with unemployment. In essence, an individual's incentive to become a motivated offender, the levels of suitable targets, and the number of capable guardians may fluctuate with changes in employment status (Paternoster & Bushway, 2001; Phillips & Land, 2012). The somewhat unpredictable nature of these fluctuations leads to inconsistencies within the literature based on what elements of routine activities theory the study captures and importantly, the economy during the time of the study.

Studies administered during times of economic prosperity may find increases in certain types of crimes because they are capturing expansions in the number of opportunities, often due to growth in the availability of consumer goods (Cook & Zarkin, 1985; Paternoster & Bushway, 2001). Conversely, studies examining periods of long term unemployment may also see an increase in crimes related to motivation such as property crimes (Cook & Zarkin, 1985; Phillips & Land, 2012). As individuals are unemployed for longer periods of time, they may seek to subsidize their loss of buying power through illegal activity. Therefore, as individuals begin to feel the magnitude of their lost income, they may be more likely to engage in criminal activity (Cook & Zarkin, 1985; Paternoster & Bushway, 2001). For there to be an increase in the number of crimes, however, increases in motivation must occur in conjunction with increases in opportunity

(Paternoster & Bushway, 2001; Phillips & Land, 2012). On that account, Phillips and Land (2012) note that capturing the impact unemployment has on crime can be difficult and dependent on a variety of influences associated with both motivation and opportunity. Each of these will be assessed below.

INDIVIDUAL-LEVEL MOTIVATION AND CRIME

To understand how unemployment can increase an individual's motivation to commit crime, it is important to first understand who can become criminally motivated. As originally conceptualized by Cohen and Felson (1979), the motivated offender element of routine activities theory is somewhat vague. Cohen and Felson (1979) further state that several theoretical perspectives may be applied to understand criminal motivation. Osgood, Wilson, O'Malley, Bachman, and Lloyd (1996), however, argue that this element is best integrated with the situational perspective of individual level motivation. The situational perspective states that anyone can become criminally motivated under the right conditions (Osgood et al., 1996). Further, these conditions may be contingent on several factors such as the strain an individual is feeling, the individual's access to legitimate resources, and the costs and benefits associated with each of these factors. Although these elements will be discussed below, it is important to note that situational motivation does not mean that when an individual is presented with an opportunity to commit crime they will choose to do so (Osgood et al., 1996). Rather, this perspective argues that much goes into whether or not an individual will behave criminally when the opportunity is presented (Osgood et al., 1996).

One of the factors which may increase the likelihood that an individual will engage in criminal behavior when unemployed is the amount of strain they feel. Under

Merton's (1938) anomie theory, crimes occur because of the strain felt when individuals cannot attain the American Dream of living a prosperous life. In an unemployment context, this may occur when an individual is blocked from prosperity by the removal of the resources associated with employment. Therefore, in periods of higher than average unemployment, fluctuations in crime rates may be contingent on several factors such as access to legitimate resources (Florence, Rosenfeld, Edberg, & Fang, 2013).

The availability of these resources, however, is dependent on several circumstances. First, both government and familial assistance are exhaustible. Although the length of eligibility varies by state, government programs such as unemployment benefits generally only extend to 26 weeks or half a year (Stone & Chen, 2014). Additionally, although familial support may be plentiful at first, it is unlikely that support will continue for an indefinite amount of time. Second, there may be stipulations attached to the receipt of benefits or resources. Government issued unemployment benefits are only available to those that were released from their employment through no fault of their own (United States Department of Labor, n.d.). This means that individuals who were fired may have greater motivation to commit crime as they do not have access to government resources. Moreover, individuals of lower socio-economic standing may be less likely to have resources or connections to resources, such as family and friends with money, making it more likely that they will become criminally motivated (Crutchfield, 2014).

Beyond access to legitimate resources, the likelihood that unemployed individuals will engage in criminal activity may depend on their perception of the risks and benefits associated with the illegal act (Florence et al., 2013). Under rational-choice theory,

offenders consider the costs and benefits of behavior before engaging in criminal activity (Cornish & Clark, 1987). In an employment context, the decision to commit crime is likely dependent on whether the individual believes that behaving criminally will impede future employment opportunities. Indeed, if an individual believes that getting caught for a crime may damage their future employability, they may view the cost of criminal activity as outweighing the benefits. The deterrent nature of future employability may be an essential component of preventing periods of mass unemployment from evolving into periods of rising crime rates. Wilson (1987) and Crutchfield (2014) discusses how this type of unemployment is especially damaging to individuals from lower socioeconomic backgrounds or members of a minority group given that they may feel as though they are unlikely to become employed again, and therefore, see illegitimate opportunities as the only way to address economic needs.

In sum, individuals that do not have access to legitimate resources and subsequently perceive the benefit of criminal activities as exceeding the cost have a high likelihood of being motivated to commit crime. It is worth noting that the motivation to commit crime is not transferable to all types of crime. Under rational choice theory, criminal activity occurs to meet a specific need (Cornish & Clark, 1987). In an unemployment context, this means that individuals commit crimes to mitigate resource deprivation. Therefore, unemployment is not expected to directly increase violent crimes (Cantor & Land, 1985; Phillips & Land, 2012). Like much of the other U-C literature, this finding has seen mixed support as long term resource deprivation may indirectly lead to elevations in violent crime rates by breeding illegitimate activity – such as drug trade and gang activities – which ultimately leads to increases in violence (Anderson, 1999;

Florence et al., 2013;). Therefore, although it is more likely that unemployment will have a direct impact on property crimes (Cantor & Land, 1985; Phillips & Land, 2012), there is a chance that it may also increase violent crime by promoting changes in an individual's routine in conjunction with a decrease in institutions capable of providing guardianship (Anderson, 1999; Florence et al., 2013). Each of these factors, however, works in conjunction with the opportunity structures which control the last two components of routine activities theory: target suitability and guardianship. These opportunity structures are discussed further in the next section.

OPPORTUNITY STRUCTURES AND CRIME

In the unemployment literature, opportunities to commit crimes are driven by two factors: macro-level changes in business cycles and micro-level shifts in an individual's routines. These shifts are viewed as impacting crime rates by changing both target suitability and guardianship. Beginning with macro business cycles, conceptually, target suitability hinges on the cyclical fluctuations in the availability of consumer goods. In times of a strong economy, theft of high value items may increase because of a rise in consumers' purchasing power; this results in an influx of desirable consumer goods such as electronics and cars (Cohen & Felson, 1979; Cook & Zarkin, 1985; Paternoster & Bushway, 2001; Phillips & Land, 2012). This influx increases both the quantity and desirability of items in circulation. In sum, favorable economic conditions create an environment where target suitability is high (Cook & Zarkin, 1985; Paternoster & Bushway, 2001).

Although motivation in these times may not be elevated, the prevalence of desirable goods could lead to increases in certain types of theft. For example, Paternoster

and Bushway (2001) find that the theft of high value cars for the purposes of joyriding is elevated during times of economic prosperity. The authors note that these prosperous periods are ideal for thefts not born of necessity, such as joyriding, because they increase the number of desirable goods in circulation while decreasing guardianship over these goods while owners are at work (Paternoster & Bushway, 2001). Although short term shifts in unemployment may lead to slight, cyclical changes in crime rates, Cohen and Felson (1979) speculate that more permanent trends in employment patterns lead to lengthier increases in crime rates.

In the 1980s cultural shifts led to an increase in the number of individuals seeking employment as women began to leave their homes and enter the workforce. Scholars speculate that this societal shift led to higher crime rates by reducing the number of capable guardians in the home and neighborhood (Cohen & Felson, 1979; Bushway & Rueter, 2011). As with this shift, dramatic changes in the number of individuals spending time at work may have a profound impact on levels of guardianship. Guardianship is an important component of crime prevention because of the effect it can have on the perceived costs and benefits of committing a crime. As noted previously, Cornish and Clark (1987) hypothesize that offenders weigh the risks and rewards before engaging in a criminal act. Motivated offenders may view this reduced guardianship as altering the likelihood that they will face repercussions for criminal behavior. Effectively, this may alter the cost-benefit analysis of engaging in criminal acts. As the perceived risk that a motivated offender will be caught decreases, the perceived benefits of committing a crime may increase. Because of the importance guardians have on perceptions of crime, it

is unsurprising that periods of mass unemployment¹ have been linked to an initial decrease in crime rates as guardians are put back in the home (Cantor & Land, 1985; Philips & Land, 2012). Although increases in unemployed individuals are initially beneficial to levels of neighborhood guardianship, these same unemployed persons are likely to transition into motivated offenders as they exhaust their access to legitimate resources.

Throughout the unemployment literature, this progression from guardian to offender is assumed: individuals become unemployed and initially act as guardians until they have exhausted their resources and transition into motivated offenders (Cantor & Land, 1985; Philips & Land, 2012). Under this perspective, the only factor preventing motivated offenders from engaging in crime is an increase in prevalence of other unemployed, potentially motivated offenders providing guardianship over opportunities. This rationale, however, minimizes the ability of structural forces, such as neighbors, to

¹ Although somewhat difficult to define, periods of mass unemployment are often linked to dramatic increases in the unemployment rate over a short period of time. In the present study, the term “mass unemployment” is appropriate because of the sharp increase in unemployment over the period being researched. According to the United States Department of Labor, Bureau of Labor Statistics (2012), the unemployment rate increased dramatically over the Great Recession. At the end of the first year (2007) crime rates were around 5 percent; however, by the end of 2009, crime rates were at 10 percent. In comparison, the unemployment rate under the Great Recession is the highest in the post-world war era (after 1942), not taking the unemployment crisis of the early 1980s into account where the unemployment rate reached 10.8 percent in June of 1983. It should be noted, however, that though the unemployment rate of the 1980s was slightly higher than during the great recession (+0.8), the elevated rate of unemployment under the great recession lasted longer. Additionally, the long term unemployment rate – those unemployed 27 weeks or longer -- under the great recession reached 4.4 percent as compared to 2.6 percent under the recession of the 1980s (United States Department of Labor and Bureau of Labor Statistics, 2012).

prevent increases in crime rates. These structure-level variables will be examined further in the next section.

THE ROLE OF NEIGHBORHOODS IN GUARDIANSHIP

While individual level forces have the ability to influence crime – particularly an individuals’ decision making processes – factors at the neighborhood level also have a significant influence on the mix of motivated offenders, capable guardians, and suitable targets. At an individual level, decisions to commit crimes may be largely dependent on an assessment of the costs and benefits at stake (Cornish & Clark, 1979). Individuals that believe they have elevated risk of getting caught are less likely to commit crimes. These perceptions of opportunity are indirectly driven at a structural level by neighborhood social disorganization. This is due to the reciprocal relationships surrounding social disorganization and the many crime prevention and enforcement mechanisms related to this concept; particularly, aspects of informal social control. To fully appreciate how opportunity structures within a neighborhood impact crime rates, it is first necessary to assess all of the components of social disorganization and its correlates.

Social disorganization occurs when neighborhoods can no longer realize common goals and maintain order (Sampson & Groves, 1989; Shaw & McKay, 1942).

Neighborhoods are unable to realize these goals because of disruption in the cohesive elements within a community associated with low-socioeconomic status, ethnic heterogeneity, and residential mobility (Sampson & Groves, 1989; Shaw & McKay, 1942). These elements lead to crime by breaking down the ties and communication between neighbors necessary to maintain organization and establish goals (Bursik & Grasmick, 1993). In a crime prevention context, a goal of the neighborhood may be to

live in a crime free environment (Bursik & Grasmick, 1993). Without mechanisms in place to maintain order, this goal cannot be achieved. One way neighborhoods realize this goal is through informal social control. Informal social control occurs when members of the neighborhood intercede against norm violating behaviors by initiating some form of corrective action (Bursik & Grasmick, 1993). The decision to participate in informal social control was originally conceptualized as being contingent on the density of social networks (Bursik & Grasmick, 1993). Under this assumption, the more connected an individual is to either other residents or organizations, the better able they are to bring corrective action against norm violating behaviors because they have access to more remedial establishments (Bursik & Grasmick, 1993). These remedial establishments may come in the form of another person or organization. What is important is that if residents are unable to enforce control themselves, they have access to those that can institute corrective action. Therefore, when neighborhoods lack neighborly and organizational ties, as in the case when the neighborhood is socially disorganized, informal social control is rarely in place.

Warner (2007) categorizes the networks behind informal social control as either direct or indirect based on the type of intervention they offer. Direct forms of intervention consist of either private or parochial networks (Bursik & Grasmick, 1993; Warner, 2007). Private networks are those made up of close family and friends, while parochial networks consist of ties to individuals or organizations that do not encapsulate the same sentimental bonds as private networks (Bursik & Grasmick, 1993; Warner, 2007). Both of these types of social control are considered beneficial for resolving more informal, low-level conflicts (Bursik & Grasmick, 1993). For example, a resident may see youths

loitering on a street corner. If the resident is connected with other adults in the neighborhood, this violation of norms may be resolved by simply calling the youths' parents. Although these direct networks offer a potential medium for crime reduction, there may be times when more formal methods of intercession are necessary or preferred. This type of social control is referred to as public social control.

Public social control is more indirect in nature and involves correcting norm violating behaviors by mobilizing resources outside of the neighborhood (Bursik & Grasmick, 1993; Warner, 2007). Although corrective action under this method comes from a formal party – most commonly the police – it is still considered informal in nature because it is initiated through informal means, in other words, the resident (Warner, 2007). Indeed, it is important to bear in mind that the crux of informal social control is that norm violating behaviors initiate corrective action, and that corrective action is in some way initiated by residents. It does not matter whether this enforcement is more direct in nature and is expressed through actions such as picking up the phone to call a neighbor or more indirect in expression such as picking up the phone to call the police (Sampson, 2008; Warner, 2007). What is important, however, is that individuals are expressing their desire to maintain order by engaging in intervention. The form this intervention takes on – whether direct or indirect in nature – may depend on several factors.

First, the decision to directly or indirectly confront norm violating may depend on personal preference. O'Brien (2016) hypothesizes that some individuals may be wary of direct confrontation, and therefore, will utilize formal institutions such as the police as a mediator between themselves and an uncomfortable conversation with their neighbor. Second, a resident may not feel as though they are connected enough within the

neighborhood to directly intervene. Avakame, Fyfe, and McCay (1999) found that individuals who are a racial minority, older, and of lower socioeconomic status are more likely to call the police. These findings suggest that individuals belonging to disenfranchised groups may have not access to alternative methods of addressing norm violating behaviors (Avakame et al., 1999). Whatever the reason, it is important to note that when residents mobilize formal institutions such as the police, it is participating in informal social control because the initiation of social control originates from an informal party – the resident – and results in action against norm breaking behaviors. In sum, neighborhoods that have residents willing to participate in corrective action – whether direct or indirect – are less likely to suffer from elevated crime rates. This willingness to participate is based on the levels of mutual trust and cohesion within a neighborhood. Termed collective efficacy, this cohesion is one of the elements essential to maintaining a socially organized neighborhood (Sampson, et al., 1997; Sampson & Raudenbush, 1999; Sampson, 2008).

Collective efficacy represents shared expectations among residents that norm violating behaviors will result in the initiation of informal social control (Sampson, et al., 1997; Sampson & Raudenbush, 1999; Sampson, 2008). Neighborhoods that have high levels of collective efficacy are characterized by a widespread sense of trust among residents that all individuals in the neighborhood are striving toward a common goal, such as living in a crime free environment (Sampson, 2008). Areas with high levels of collective efficacy not only rectify norm violating behaviors through informal social control, but they are also able to prevent an influx of norm violating behaviors by managing perceptions of opportunity (Sampson & Raudenbush, 1999, Sampson, 2012).

These perceptions of opportunity are largely dependent on how well the neighborhood can prevent signs of disorder from accumulating (Sampson, 2012; Skogan 1990; Wilson & Kelling, 1982). Disorder leads to crime by breaking down institutions of control within the neighborhood as well as increasing levels of perceived opportunity from those outside the neighborhood (Sampson & Raudenbush, 1999).

The accumulation of signs of disorder such as graffiti, loitering, and trash on the street act as an indicator of the levels of control within the neighborhood (Sampson & Raudenbush, 1999; Wilson & Kelling, 1982). Higher levels of these disorder cues are perceived as greater opportunities because they seemingly indicate to the offender that there are lower levels of social control in the neighborhood and norm violating behaviors will not result in corrective action (Sampson & Raudenbush, 1999; Sampson 2008). In addition to inviting threats from outside the neighborhood, disorder also erodes collective efficacy from within the neighborhood by acting as a physical marker to residents that others are not participating in collective action (Sampson, 2008). From there, residents are discouraged from participating in informal social control because they do not trust that corrective action is widespread (Sampson, 2008). Additionally, increases in disorder may also discourage participation in informal social control by causing residents to withdraw. As signs of disorder accumulate, residents may become fearful that they will be victimized, causing them to retreat into their homes or seek residency elsewhere (Skogan, 1986; Wilson & Kelling, 1982). As fear begins to breakdown cohesion within the neighborhood, those that can leave the neighborhood may choose to do so (Skogan, 1986). The outmigration of residents fleeing these neighborhoods combined with an influx of new residents leads to residential instability. Lack of stability leads to crime

because it prevents the formation and enforcement of the common goals necessary to maintain organization (Sampson, 1991). In the past, unemployment has impacted crime rates by increasing fear of crime and disorder which ultimately leads to the inability of neighborhoods to realize residential stability (Skogan, 1986).

One such period of unemployment which led to social disorganization was deindustrialization. Under deindustrialization, many of the low-skilled, low-wage manufacturing jobs in the United States were lost (Skogan, 1986; Wilson, 1987; Wilson, 1996). This had a devastating impact on the neighborhoods that housed these workers, many of whom were unemployed without the prospect of future employment due to the low-skill, non-transferable nature of their job (Skogan, 1986; Wilson, 1987; Wilson, 1996). As a result, individuals that had the resources to leave vacated the neighborhood while those that did not were trapped (Wilson, 1987; Skogan, 1986). Surrounded by devolving conditions as well as relatively few legitimate employment opportunities, many of the remaining residents resorted to criminal behavior such as drug trade and gang activity (Anderson, 1999). Under conditions such as these, it is easy to assume that mass unemployment automatically leads to a breakdown in the protective mechanisms within a neighborhood. What this perspective fails to take into account, however, is that some neighborhoods may be better equipped to deal with mass unemployment than others. Specifically, neighborhoods marked by low-levels of socioeconomic status may be especially ill equipped to deal with a surge in unemployment rates because of the impact it may have on social organization.

Indeed, low socio-economic status has been consistently linked to higher levels of crime (Sampson & Groves, 1989; Sampson, 2012; Shaw & Mckay, 1942). Lower socio-

economic neighborhoods are less likely to be socially organized (Sampson & Groves, 1989; Shaw & McKay, 1942). In a routine activities context, this means unemployment creates both greater opportunity and motivation as resource deprived individuals begin to spend more time in neighborhoods that lack guardianship. In sum, the correlations between socioeconomic status and levels of informal social control may account for the unexpected U-C relationship during the most recent episode of mass unemployment. These conditions will be examined below.

UNEMPLOYMENT AND THE MIDDLE-CLASS

The housing crisis and downward trajectory of economic conditions from 2007-2009, often referred to as the Great Recession, led experts to speculate that crime rates would increase drastically. Contrary to these expectations, however, crime rates in the United States continued to fall. According to the United States Department of Justice, Federal Bureau of Investigation (FBI) (2012), crime rates dropped precipitously over the great recession and have continued to decrease in the following years. For example, property crimes fell an estimated 8.3 percent in the years 2007-2011 (FBI, 2012). Additionally, violent crimes decreased 15.4 percent in the same period (FBI, 2012). Conversely, unemployment steadily increased over the over these years beginning with a rate of 4.6 percent in January of 2007 and ending with a rate of 8.5 percent in December of 2011 (United States Department of Labor, Bureau of Labor Statistics, n.d.-a). It should be noted that although unemployment increased over this period, the unemployment rate peaked in October of 2009 when it reached 10 percent before gradually decreasing (United States Department of Labor, Bureau of Labor Statistics, n.d.-a). Although the rates of unemployment increased dramatically over the years 2007-2010 before gradually

decreasing, the rate of both property and violent crimes steadily decreased over this period.

The unexpected trend of decreasing crime rates over a period of increasing economic uncertainty has led researchers to speculate on the underlying causal factors between recessionary periods and crime rates. The argument here is that incarcerating more offenders decreases crime by reducing the number of those motivated to commit crimes out on the street. This relationship, however, assumes that only certain individuals are motivated to commit crimes, thus ignoring the potential of any individual to become motivated due to shifts in their environment. Another potential explanation for the differences in the U-C relationship over the Great Recession is that unemployment was more evenly distributed across socioeconomic status. In other words, no social class – except for the very wealthy - was exempt from feeling the effects of the Great Recession (Taylor et al., 2010). Under this assumption, at the neighborhood level, it would mean that as long as unemployment did not erode levels of informal social control within a neighborhood, crime rates would not rise.

Examination of the distribution of those impacted by the Great Recession shows that there may be some validity to this assumption. Indeed, although the economic downturn of the 2000s negatively influenced those of low-socioeconomic status, it also profoundly impacted those that identify as middle-class. In fact, Taylor et al. (2010) found that 45 percent of those who identify as middle-class believed that their household-finances were worse off than they were prior to the recession, compared to 33 percent who believed that there was no real change and 21 percent who believed they were better off. What should be made clear is that the wide-sweeping nature of unemployment during

the Great Recession is conceptually different than previous periods of unemployment such as deindustrialization. In the Great Recession, unemployment was not just a low socioeconomic status problem. It became a problem for individuals from all types of social classes, and by extension, all types of neighborhoods. Thinking critically, it is possible that aggregate crime rates did not rise over the financial crisis because of the distribution of unemployment across socioeconomic status and neighborhood. This distribution means that as long as unemployment did not change levels of informal social control in neighborhoods that were highly organized – especially the more stable middle class neighborhoods -- crime rates would not be expected to rise at an aggregate level.

CURRENT FOCUS

As noted in the review of literature, capturing each of the components of the U-C relationship can be a complex process. Although the existing literature has examined many of the individual and macro-level factors that impact each of these elements (Cantor & Land, 1985; Phillips & Land, 2012), research has largely ignored how informal social control at a neighborhood level may factor into these relationships. Although studies have indirectly linked unemployment to increases in crime (Skogan, 1986; Wilson, 1987), none has fully considered whether or not unemployment may directly influence informal social control. This is important because it may provide an explanation for why crime decreased over a period of surging unemployment over the financial crisis.

To test these relationships, the present study proposes examining the following hypotheses. First, I will establish whether there is a relationship between unemployment and crime. This is a necessary step due to the many factors that may lead to changes in

crime rates. To test this relationship, the dependent variable—the UCR crime rate—will be split by crime type and the effect of unemployment will be examined against all UCR crimes, property UCR crimes, and violent UCR crimes. By splitting these variables into respective crime rates, it addresses the hypothesis that the U-C relationship manifests itself in higher levels of property crime but not higher levels of violent crime (Cantor & Land, 1985; Phillips & Land, 2012). In keeping with this observation, I hypothesize that unemployment will lead to increases in property crimes but not violent or all crimes.

Second, I have created three variables examining the ratio of calls for service to the police over UCR crimes by crime type. These variables have been created to assess whether or not the observed relationships between unemployment and crime are the result of changes in levels of resident engagement relative to the reported UCR crimes. I, therefore, hypothesize that crime types that have a positive relationship with unemployment in my first set of analyses will have a negative relationship with the ratio of informal social control to reported crime rates. This hypothesis is based on the assumption that elevated levels of crime are the result of decreased levels of informal social control. Based on my hypotheses outlined above, I hypothesize that unemployment will have a negative relationship with the property crime ratio. This is based on the assumption that increases in crime rates function through reductions in levels of informal social control.

Third, for each of the models, I examine whether the economic downturn under the financial crisis led to changes in the rate of UCR crimes as well as levels of informal social control. This measure seeks to determine whether the decreasing crime rates over the most recent period of increasing unemployment could be due to fluctuations in the

stability of informal social control across the period. Theoretically, these observed relationships could be due to the distribution of unemployment rates across socioeconomic status. Taken together, if socioeconomic status is associated with levels of informal social control, and neighborhoods maintained existing levels over the recession, this would mean that increases in middle class unemployment would not result in increases in crime rates. Therefore, I hypothesize that the financial crisis is not significantly related to changes in informal social control.

SETTING

The present study evaluates relationships utilizing data from Glendale, Arizona. Glendale is a part of the Phoenix Metropolitan area which includes Phoenix, Arizona, Scottsdale, Arizona, and Glendale, Arizona. Glendale is situated adjacent to the city of Phoenix in its northwestern corner. According to the United States Census, the Phoenix-metro area had an average income near \$50,869 in 2010 (Noss, 2013). This aligns with the national average in 2010 of \$50,502 (Noss, 2012). Glendale's population has been steadily increasing. In 2011, the population was 226,721, which represents a 3.6 percent increase compared to 2010 (United States Census Bureau, 2011). At the 2010 census, the racial composition of the city was primarily Caucasian (67.82 percent) although a sizable percentage of the population identified as Hispanic (35.51 percent) (United States Census Viewer, n.d.).

During the recession, Glendale experienced increases in both home foreclosures and unemployment – much like the rest of the United States. Prior to 2007, for example, Glendale typically experienced fewer than 60 foreclosures per year. From April 2007 through October 2008, however, the city experienced over 3,000 foreclosures

(Halverstadt and Trevizo, 2009). Additionally, for the period 2007-2011, the unemployment rates experienced by Glendale closely mirrored those at the national average with a rate of 3.7 percent beginning in January of 2007, reaching its highest point of 10.4 percent in January of 2010, before gradually beginning its decline ending with an unemployment rate of 7.7 percent in December of 2011 (United States Department of Labor, Bureau of Labor Statistics, n.d.-b). Additionally, crime rates for the years 2007-2011 gradually decreased, with the exception of the years 2010 to 2011, where both property and violent crime increased slightly compared to the previous year (FBI, n.d.). The similarity in trends of both unemployment and crime rates make Glendale a good candidate for the proposed study.

DATA

The present study measures the proposed hypotheses using data from three sources. The first data source is calls for service (CFS) data from the Glendale, Arizona police department. These data are used to construct my measure of informal social control. Second, Uniform Crime Report (UCR) data are used to calculate the crime rates as well as crime types necessary to measure the dependent variables. Third, the neighborhood level factors are created utilizing 2000 and 2010 US census data, as well as the 2010 American Community Survey. Each of these datasets are discussed in further detail below.

CFS data are comprised of both citizen calls for service as well as police and citizen initiated² activity in Glendale, AZ from January 2007 to December of 2011(see

² Unfortunately, due to the way these data were gathered by the Glendale Police Department, I was unable to accurately determine which incidents of CFS were caused by citizen initiation and which were initiated by the police officer. Although I was unable to

Katz et al., 2011; Wallace et al., 2012). CFS data are ideal for this study because of their ability to objectively measure instances of informal social control free of survey bias. Typically, levels of informal social control and neighborhood attachment are obtained through the administration of surveys (Sampson & Groves, 1989; Sampson & Raudenbush, 1999). Although surveys may be a valuable tool for gathering data, they can be subject to any number of flaws including definitional issues between the survey administrator and the survey taker and the inability of survey takers to recall instances of importance (Mosher, Miethe, & Hart, 2011). CFS data do not suffer from these limitations because they capture calls as they come to the police.

To assess the dependent variable of crime, the present study uses UCR data for the years 2007-2011 from Glendale, Arizona. UCR data consists of crime information gathered by cities and submitted to the Federal Bureau of Investigation (FBI) for seven index offenses. According to the FBI, UCR data report both arrest and clearance data (FBI, 2010). These data are different from the CFS data because they represent actual arrests instead of participation in informal social control. This mean while CFS data measure the proactive resident engagement under informal social control, UCR data measure actual crimes. Lastly, the incidents in the CFS and UCR data were geocoded to

determine with certainty the number of police initiated incidents, I have reason to believe that the vast majority of the incidents were generated through the actions of the residents. The data includes a variable labeled "Field Generated," which I believe indicates actions that did not originate via a call for service coming through dispatch. The number of these incidents encompasses roughly 8 percent of the data per year. It should be noted that these field incidents could still be the result of citizen initiated actions which call the attention of an officer to a norm violating behavior. As is, I recognize that police-citizen contact initiated in the course of an officer's duty is not informal in nature. Although I was unable to determine with certainty the extent of this formal social control, I plan to seek the guidance of the Glendale Police Department in determining which instances are resident initiated and which are police initiated as I move forward with this project.

the 2010 census tract boundaries (this study's definition of a neighborhood), and then counted on a monthly-yearly basis to establish rates of CFS and UCR crimes.

The last datasets used in the current study are US census data for the years 2000 and 2010 as well as the 2010 American Community Survey. Census data is appropriate based on its ability to capture neighborhood level variables. The present study utilizes the three sources of census data to measure the independent variable unemployment, as well as the control variables for race and ethnicity, percentage of young men, and the level of disadvantage in a neighborhood, which is defined as a census tract in this study. It should be noted that because the census is administered on a decennial basis, linear interpolation has been utilized to generate values for the intercensus years.

Each of the data sets were merged by census tract, year, and month using Stata 14. There are a total of 228 census tracts that had complete CFS, UCR, and census level variables. Although the data did not suffer from issues associated with missingness, there were several values in the census data that were negative due to linear interpolation. Each of these values were recoded as 0. The final, merged dataset included 60 (12 months and 5 years) instances of each of the 228 tracts for a total of 13,680 rows of data.

MEASURES

Dependent Variables

There are a total of six dependent variables in the current study. The first three dependent variables represent the logged monthly rate of UCR crimes for three outcomes: the sum of all types of UCR crime, property UCR crimes, and violent UCR crimes. Each of these variables were calculated in a similar manner. First, the rate was determined by taking the total number of reported UCR incidents by type, dividing by the total

population, and then multiplying by 1000. After the rate of each type was calculated, the variable was logged by adding 1. For the sake of brevity, these measures will be referred to as property UCR crimes, violent UCR crimes, and all UCR crimes.

The next three dependent variables represent a logged ratio of the number of CFS to the number of UCR crimes for three call/UCR types: all CFS types to all UCR crime types, property crime CFS to property crime UCR, and violent crime CFS to violent crime UCR. The rates of both the numerator and the denominator were calculated by taking the total number of the variable of interest – either CFS or UCR crimes – dividing by the total population, and then multiplying by 1000. After the rates were calculated, the ratio was determined by dividing the rate of the CFS variable plus 0.01 by the rate of the UCR variable plus 0.01. This constant was added to both rates to avoid the denominator being 0 given that some neighborhoods were very likely have no UCR crimes in a month. Finally, the ratio was logged. It should be noted that before logging, a constant of 1 was added to the ratio. For the sake of brevity and ease of interpretation, these ratios will be referred to in the following manner. The logged rate of all CFS to all UCR crimes shall be referred to as just the full crime ratio; the logged rate of property crimes to property UCR crimes shall be referred to as the property crime ratio; and, the logged rate of violent CFS to violent UCR crimes shall be called the violent crime ratio.

Independent Variables

There are two independent variables in this study: unemployment and the financial crisis. The first, the logged percentage of unemployed individuals, was calculated by taking the total number of unemployed individuals for each census tract, month, and year and dividing it by the number of individuals for the same tract and time

period. The percent was then logged by adding 1. The second independent variable, the financial crisis, represents a dichotomous term with each of the rows for the years 2007-2009 coded as 1 and all other years (2010-2011) coded as 0. In addition to my two independent variables, I also created an interaction term to determine whether the effects of unemployment and the financial crisis together moderate the relationship between the dependent variable and each of the independent variables apart from one another.

Control Variables

In addition to the variables listed above, the study also incorporated several control variables known to be related to neighborhood crime rates (Katz et al., 2011; Wallace et al., 2012). These variables include several demographic measures including: the percentage of Hispanics, percentage of blacks, and percentage of males age 15 to 24 (Katz et al., 2011; Wallace et al., 2012). Additionally, the present study includes an economic disadvantage factor score constructed using the percentage of female headed households, percentage of those in poverty, percentage of vacant homes, and percentage of homes occupied by renters.³ Finally, the present study includes controls for the seasonal effects of crime. Hipp, Bauer, Curran, and Bollen, (2004) found that crime rates differ based on weather patterns. Specifically, hotter months may result in higher crime rates (Hipp et al., 2004). For this reason, I grouped months based on their season: winter (months 12-2), spring (3-5), and fall (9-11). Summer is the reference season. Lastly, a linear control for time is included in the models.

Modeling Strategy

³ The eigenvalue for the neighborhood disadvantage factor was 2.05, with factor loadings ranging from 0.51 to 0.88 (Sampson & Raudenbush, 1999).

To test the relationship between unemployment and crime, this study uses linear panel models with auto-correlated error terms. This modeling strategy controls for the fact that when examining an outcome over time – here the unemployment variables as well as the ratios – a neighborhood’s outcome values are often correlated with themselves. Utilizing this modeling strategy, I assessed each of the relationships of interest for my six dependent variables. To do this, I separated my dependent variables into an analysis group. For each analysis group, I ran three models. Model 1 represents a base model assessing the relationship between the dependent variable, the financial crisis variable, and the control variables. Model 2 examines the full relationships between my dependent variable and all of the independent and control variables excluding my interaction term. Finally, model 3 assesses the relationship between the dependent variable and each of the independent and control variables.

In analysis groups 1-3, I examine what the U-C relationship looks like for the given dependent variables through my analyses in models 1 and 2. Next, I examine whether this relationship is moderated by the financial crisis for each of my UCR dependent variables. Analysis group 1 assesses the relationships between property UCR crimes and unemployment, group 2 examines the results between violent UCR crimes and unemployment, and analysis group 3 assesses the relationship between all UCR crime and unemployment. By performing these analyses, I am able to establish the existing relationships between unemployment and crime as well as determine whether the U-C relationship is moderated by the impact of the financial crisis and unemployment together. My final 3 analysis groups (4-6) focus on the relationship between unemployment and changes in the levels of informal social control relative to recorded

UCR crimes. Analysis group 4 measures the effect of unemployment as well as the moderating interaction of unemployment and the financial crimes on the full crime ration. Analysis group 5 captures the relationship between unemployment as well as the moderating interaction of unemployment and the financial crisis on the property crime ratio. Analysis group 6 assesses the effect of unemployment as well as the moderating interaction of unemployment and the financial crimes on the violent crime ratio.

After identifying each of the relevant variables necessary to assess the proposed hypotheses, I checked for multicollinearity within the models. As seen at table 1, multicollinearity is not a concern for any of the variables within the model. The results of the Pearson’s correlation test are presented in table 1. Additionally, I assessed the variance inflation factor (VIF) score. The mean VIF score for my independent and control variables was 2.23.

Table 1:

Table 1: Correlations Matrix

| Variable Name | All UCR Crimes | Property UCR Crimes | Violent UCR Crimes | Full Crime Ratio | Property Crime Ratio | Violent Crime Ratio | Financial Crisis | Unemployment Rate | Percentage Hispanic | Percentage Black | Disadvantage Score | Percentage YM | Linear Time | Winter | Spring | Fall |
|------------------------|----------------|---------------------|--------------------|------------------|----------------------|---------------------|------------------|-------------------|---------------------|------------------|--------------------|---------------|-------------|---------|---------|------|
| All UCR Crimes | - | | | | | | | | | | | | | | | |
| Property UCR Crimes | 0.9727 | - | | | | | | | | | | | | | | |
| Violent UCR Crimes | 0.7351 | 0.7085 | - | | | | | | | | | | | | | |
| Full Crime Ratio | 0.2290 | 0.2026 | 0.1490 | - | | | | | | | | | | | | |
| Property Crime Ratio | 0.3808 | 0.2815 | 0.2533 | 0.4566 | - | | | | | | | | | | | |
| Violent Crime Ratio | 0.6797 | 0.6339 | 0.1505 | 0.3045 | 0.4135 | - | | | | | | | | | | |
| Financial Crisis Years | 0.0167 | 0.0076 | 0.0426 | -0.0256 | 0.0449 | 0.000 | - | | | | | | | | | |
| Unemployment Rate | 0.1309 | 0.1184 | 0.1778 | 0.0197 | 0.0791 | 0.0477 | 0.5868 | - | | | | | | | | |
| Percentage Hispanic | 0.0140 | -0.0009 | 0.121 | -0.0105 | -0.0036 | -0.0729 | -0.0557 | 0.161 | - | | | | | | | |
| Percentage Black | 0.1419 | 0.1253 | 0.1645 | 0.0481 | 0.0502 | 0.0470 | -0.0446 | 0.0648 | 0.3085 | - | | | | | | |
| Economic Disadvantage | 0.2011 | 0.2060 | 0.2825 | 0.0105 | 0.0046 | 0.0325 | -0.0344 | 0.2346 | 0.3871 | 0.5269 | - | | | | | |
| Percentage Young Male | 0.0116 | 0.0015 | 0.0470 | 0.0575 | 0.0059 | -0.0176 | -0.308 | -0.1836 | 0.6179 | 0.3985 | 0.3477 | - | | | | |
| Linear Time | -0.0273 | -0.0168 | -0.0538 | -0.0159 | -0.0619 | 0.0470 | -0.8486 | -0.6543 | 0.0621 | 0.0497 | 0.0384 | 0.3446 | - | | | |
| Winter | -0.0154 | -0.0123 | -0.0199 | -0.0117 | -0.0197 | -0.0139 | - | - | - | - | - | - | -0.0500 | - | | |
| Spring | 0.0168 | 0.0112 | 0.0159 | 0.0261 | 0.0172 | 0.0201 | - | - | - | - | - | - | -0.0833 | -0.3333 | - | |
| Fall | -0.0125 | -0.0104 | -0.0170 | -0.0257 | -0.0207 | -0.0026 | - | - | - | - | - | - | -0.1167 | -0.3333 | -0.3333 | - |

DESCRIPTIVES

Table 2. Descriptive Statistics for Continuous Variables (N=288), 2007-2011

| | Year 2007 | | Year 2011 | |
|------------------------------------|-----------|--------|-----------|--------|
| | Mean | SD | Mean | SD |
| <i>Monthly Data</i> | | | | |
| All UCR Crimes (Logged Rate) | 0.6163 | 1.0174 | 0.5316 | 1.0076 |
| Property UCR Crimes (Logged Rate) | 0.3730 | 0.6638 | 0.3391 | 0.6914 |
| Violent UCR Crimes (Logged Rate) | 0.0824 | 0.1982 | 0.0581 | 0.1725 |
| Full Crime Ratio (Logged Rate) | 1.2731 | 0.8985 | 1.2098 | 0.9265 |
| Property Crime Ratio (Logged Rate) | 1.0702 | 0.7300 | 0.9462 | 0.6516 |
| Violent Crime Ratio (Logged Rate) | 1.3685 | 1.2863 | 1.2974 | 1.2713 |
| Unemployment Rate (Logged Rate) | 0.91% | 0.54% | 0.05% | 0.12% |
| Percentage Hispanic | 34.09% | 23.58% | 38.58% | 26.38% |
| Percentage Black | 4.48% | 2.50% | 4.88% | 3.17% |
| Economic Disadvantage | 32.48% | 55.67% | 39.22% | 65.61% |
| Percentage Young Male | 15.77% | 4.23% | 21.35% | 6.49% |

The descriptive statistics for the present study are presented in table 2. These data show changes over the 5-year period studied for each of the continuous variables assessed in the present study. It should be noted that each of these variables captures the monthly average (with the exception of census variables, which is the yearly average) as well as the standard deviation for the given year and census block. Additionally, it should be noted that each of the dependent variables represent the logged rates of their respective measure. For each of the UCR crime measures, the logged rate dropped from 2007 to 2011. This suggests a drop in the rate of crimes for each type. Conversely, this downward trend is also seen in the ratios which show that the number of calls for support relative to the number of UCR crimes declined over the period. This suggests that levels of informal social control dropped over the period. As for the independent and control variables, the independent variable - unemployment – is the only measure which shows decline from 2007 to 2011. All of the other variables show increases from 2007 to 2011.

FINDINGS

I begin my discussion of the findings with my analysis of the relationship between unemployment and UCR crimes by crime type, which is presented in table 3. These findings are broken up by analysis group and model. The first three analysis groups represent my findings for the relationship between unemployment and UCR crimes. My second three analysis groups indicate the findings of the relationship between unemployment and the CFS to UCR crime ratios. Analysis groups 1-3 are discussed first followed by a summary of the UCR crime findings. Next, the findings of analysis groups 4-6 are presented followed by a summary of the findings for the crime ratios as well as key variables. To begin, the findings of analysis groups 1-3 are found in table 3.

Table 3. The Effect of Unemployment on UCR Crimes

| | Analysis Group 1: Effect of the Unemployment on all UCR Crimes | | | Analysis Group 2: Effect of the Unemployment on all UCR Crimes | | | Analysis Group 3: Effect of the Unemployment on Violent UCR Crimes | | |
|--|---|---------------------|---------------------|---|---------------------|---------------------|---|---------------------|---------------------|
| | Model 1 | Model 2 | Model 3 | Model 1 | Model 2 | Model 3 | Model 1 | Model 2 | Model 3 |
| Financial Crisis Years | -0.016 (0.015) | -0.015 (0.015) | -0.005 (0.021) | -0.028* (0.013) | -0.044** (0.014) | -0.035+ (0.018) | -0.008 (0.007) | -0.011 (0.007) | -0.013 (0.009) |
| Unemployment Rate | | 0.114 (3.426) | -0.076 (3.454) | | 11.659** (2.701) | 14.649** (5.337) | | 2.018** (0.705) | 1.027 (2.300) |
| Interaction between Unemployment and Crisis Years | | | 4.378 (5.603) | | | -3.617 (4.898) | | | 0.958 (2.254) |
| Percentage Hispanic | -0.346** (0.076) | -0.385** (0.087) | -0.408** (0.088) | -0.381** (0.058) | -0.497** (0.065) | -0.494** (0.066) | 0.015 (0.022) | 0.005 (0.023) | 0.008 (0.023) |
| Percentage Black | 1.889* (0.857) | 3.021** (0.884) | 2.732** (0.864) | 1.221** (0.473) | 1.382** (0.478) | 1.254** (0.471) | 0.605** (0.149) | 0.619** (0.148) | 0.615** (0.148) |
| Economic Disadvantage | 0.191** (0.038) | 0.126** (0.034) | 0.122** (0.033) | 0.348** (0.022) | 0.296** (0.022) | 0.302** (0.021) | 0.082** (0.007) | 0.076** (0.007) | 0.076** (0.007) |
| Percentage Young Male | 0.956* (0.422) | 1.012* (0.512) | 1.130* (0.528) | -0.640+ (0.359) | 0.273 (0.431) | 0.254 (0.442) | -0.392** (0.133) | -0.288* (0.142) | -0.307* (0.144) |
| Linear Time | -0.007** (0.001) | -0.007** (0.001) | -0.007** (0.001) | -0.003** (0.001) | -0.002** (0.001) | -0.002** (0.001) | -0.001** (0.000) | -0.001** (0.000) | -0.001** (0.000) |
| Winter | -0.002 (0.006) | -0.002 (0.006) | -0.002 (0.006) | -0.001 (0.006) | -0.001 (0.006) | -0.001 (0.006) | -0.007* (0.003) | -0.007* (0.003) | -0.007* (0.003) |
| Spring | 0.021** (0.006) | 0.021** (0.006) | 0.021** (0.006) | 0.014** (0.005) | 0.014** (0.005) | 0.014** (0.005) | 0.001 (0.003) | 0.001 (0.003) | 0.001 (0.003) |
| Fall | 0.001 (0.006) | 0.001 (0.006) | 0.001 (0.006) | -0.005 (0.005) | -0.005 (0.005) | -0.005 (0.005) | -0.007* (0.003) | -0.007* (0.003) | -0.007* (0.003) |
| Constant | 4.561 (0.455) | 4.693 (0.473) | 4.683 (0.470) | 2.113 (0.349) | 11.659 (2.701) | 1.509 (0.369) | 0.925 (0.136) | 0.774 (0.143) | 0.787 (0.146) |

Notes: Standard errors in parentheses

+ p < 0.10.

* p < 0.05.

** p < 0.01.

Analysis Group 1: The logged rate of those unemployed on the logged rate of all UCR crimes

Analysis group 1 assesses the relationship between the logged rate of unemployment and the logged rate of all UCR crimes. For each of my group 1 analyses, there is not a significant relationship between the dependent variable—all UCR crimes—and the independent variables—unemployment and the financial crisis—or their interaction. There is, however, a significant relationship between my dependent variable and several of my control variables. Specifically, percentage black, percentage of young men ages 15 to 24, and the seasonal variable, spring, are positively related to the logged rate of UCR crimes, holding all else constant. This means, for example, that as the percentage of black individuals or young men increase within a neighborhood, so do the number of UCR crimes. This positive relationship also exists for the spring months, meaning UCR crimes are higher during these months. Conversely, the percentage of Hispanic individuals in a neighborhood has a negative relationship with all UCR crimes, suggesting that in Glendale, neighborhoods with higher levels of Hispanic individuals do not have as many UCR crimes.

Analysis Group 2: The logged rate of those unemployed on the logged rate property UCR crimes

The second group of analyses examine the relationship between the logged rate of unemployment and the logged rate of property UCR crimes. Beginning with the control variables, these analyses show similar relationships as those seen in analysis group 1. The exception being percentage of young males, which is not significant for any of the models in analysis group 2.

Unlike the first set of analyses, there is a significant relationship between the dependent variable and the independent variables of interest at analysis group 2. Specifically, the relationship between the financial crisis and property UCR crimes is both significant and negative across models (note that in model 3, the effect is only significant at $p < 0.1$). This negative relationship suggests there were fewer property crimes for the financial crisis years of 2007-2009 compared to the post financial crisis years of 2010-2011. Additionally, the effect of unemployment on property crimes is significant and positive across all models. The interaction between crisis and unemployment is not significant. The inclusion of the interaction term at model 3 slightly changes the coefficient sizes of both the crisis and unemployment variables, but it does not change the significance of these relationships. The lack of changes in the significance in either unemployment or the financial crisis variables across models suggests that these variables have an independent relationship with the logged UCR property crimes.

Analysis Group 3: The logged rate of those unemployed on the logged rate violent UCR crimes

In analysis group 3, the models explore the relationship between the logged rate of unemployment and the logged rate of violent UCR crimes. Per this group of analyses, the significance of the demographic variables closely resembles that of analysis groups 1 and 2 with the exceptions of percentage Hispanic and percentage of young males. Unlike other groups, the percentage of those who are Hispanic in a neighborhood is not significantly related to the number of violent UCR crimes. Next, although the percentage of young males in a neighborhood is statistically significant, the relationship is negative which means that as the percentage of young males increases, the number of violent

crimes decreases. This is contrary to the results of analysis groups 1 and 2 which show that the percentage of young males in a neighborhood is positively related to the overall logged rate of UCR crimes as well as property UCR crimes. There is also shift the significance of the seasonal variables. In both analysis groups 1 and 2, spring is significantly and positively related to UCR crimes. In analysis group 3, however, the significance of seasonality has a negative relationship with both winter and fall months. This suggests that less violent crime is likely to occur during the cooler months associated with the fall and winter seasons. Additionally, violent crime in spring is not significantly different than violent crime in the summer.

For analysis group 3, the effect of the financial crisis is not significantly related to violent UCR crimes. The rate of unemployment, however, is both significantly and positively related to increases in the rate of violent crimes (see model 2). This relationship, however, does not exist with the inclusion of the interaction term at model 3. This suggests that the relationship between unemployment and violent crimes is not moderated or mediated by the financial crisis.

Now that the relationships between unemployment, the financial crisis, and all UCR crimes have been established, I will examine the effect of unemployment and the financial crisis on informal social control. This is done using a ratio of calls for service by category over UCR crimes by category. The findings for the fully crime ratio (all CFS over all UCR crimes) , the property crime ratio (all property crime CFS over all property UCR crimes), and the violent crime ratio (all violent crime CFS over all violent UCR crimes) are presented on table 4 and will be discussed below.

Table 4. The Effect of Unemployment on Ratio crimes

| | Analysis Group 4: Effect of the Unemployment on the Full Crime Ratio | | | Analysis Group 5: Effect of the Unemployment on Property Crime Ratio | | | Analysis Group 6: Effect of the Unemployment on the Violent Crime Ratio | | |
|---|--|---------------------|---------------------|--|---------------------|----------------------|---|---------------------|-----------------------|
| | Model 1 | Model 2 | Model 3 | Model 1 | Model 2 | Model 3 | Model 1 | Model 2 | Model 3 |
| Financial Crisis Years | -0.331** (0.037) | -0.338** (0.037) | 0.311** (0.044) | -0.058+ (0.031) | -0.088** (0.031) | -0.047 (0.038) | -0.136* (0.058) | -0.167** (0.059) | -0.039 (0.074) |
| Unemployment Rate | | 6.550+ (3.683) | 6.075 (3.785) | | 19.495** (3.275) | 37.697** (10.382) | | 23.182** (7.302) | 75.914** (19.114) |
| Interaction between Unemployment and Crisis Years | | | 12.883 (10.737) | | | -19.006+ (10.382) | | | -55.205** (19.038) |
| Percentage Hispanic | -0.452** (0.058) | -0.478** (0.06) | -0.488** (0.06) | 0.086 (0.055) | 0.010 (0.055) | -0.004 (0.055) | -1.098** (0.104) | -1.194** (0.109) | -1.214** (0.109) |
| Percentage Black | 1.351* (0.567) | 1.352* (0.567) | 1.358* (-0.568) | 2.600** (0.578) | 2.670** (0.577) | 2.676** (0.577) | 7.751** (1.12) | 7.332** (1.112) | 7.369** (1.101) |
| Economic Disadvantage | -0.115** (0.025) | -0.126** (0.026) | -0.125** (0.026) | -0.148** (0.025) | -0.171** (0.026) | -0.173** (0.026) | 0.291** (0.05) | 0.239** (0.05) | 0.232** (0.05) |
| Percentage Young Male | 2.690** (0.267) | 2.794** (0.272) | 2.841** (0.274) | 1.091** (0.248) | 1.327** (0.251) | 1.382** (0.252) | -5.600** (0.562) | -4.731** (0.598) | -4.555** (0.603) |
| Linear Time | -0.009** (0.001) | -0.008** (0.001) | -0.008** (0.001) | -0.005** (0.001) | -0.003* (0.001) | -0.002* (0.001) | 0.001 (0.002) | 0.003 (0.002) | 0.004+ (0.002) |
| Winter | -0.065** (0.022) | -0.064** (0.022) | -0.063** (0.022) | -0.039* (0.016) | -0.038* (0.016) | -0.037* (0.016) | -0.012 (0.03) | -0.011 (0.03) | -0.01 (0.03) |
| Spring | -0.013 (0.021) | -0.011 (0.021) | -0.01 (0.021) | -0.019 (0.015) | -0.017 (0.015) | -0.016 (0.015) | 0.058* (0.027) | 0.059* (0.027) | 0.060* (0.027) |
| Fall | -0.041* (0.021) | -0.042* (0.021) | -0.042* (0.021) | -0.030* (0.015) | -0.031* (0.015) | -0.031* (0.015) | 0.002 (0.027) | 0.001 (0.027) | 0 (0.027) |
| Constant | 5.795 (0.726) | 6.357 (0.664) | 5.343 (0.705) | 3.820 (0.588) | 2.292 (0.633) | 2.046 (0.646) | 2.656 (1.153) | 1.018 (1.280) | (0.404) (1.289) |

Notes: Standard errors in parentheses
+ p < 0.10.
* p < 0.05.
** p < 0.01.

Analysis Group 4: The logged percent of those unemployed on the ratio of property crimes

Analysis group 4 examines whether the unemployment rate is significantly related to changes in the full crime ratio in model 2 and whether or not this relationship is moderated by the interaction between unemployment and the financial crisis at model 3.

The results of my analysis at group 4 show significance between the dependent variable, the full crime ratio, and several of the control variables. Specifically, both percentage Hispanic and the economic disadvantage score are negatively related to the full crime ratio. This suggests that neighborhoods with higher levels of economic disadvantage or a higher percentage of Hispanic residents have a lower rate of calls for

service relative to the number of reported UCR crimes. Additionally, the seasonal variables winter and fall are negatively related to the full crime ratio. This means that residents call for service at a lower rate relative to the number of reported UCR crimes during these months compared to spring and summer. Conversely, the demographic variables percentage black and percentage of young males are both significantly and positively related to the full crime ratio, suggesting a greater percentage of either of these demographics leads to an increase in the number of CFS relative to the number of UCR crimes.

Next, there are several significant relationships across my independent variables. Specifically, in models 1 and 2, there is a negative relationship between the financial crisis years and the full crime ratio. This means that for the years of the financial crisis there are fewer CFS relative to the number of all UCR crimes. When the interaction term is included at model 3, however, this relationship becomes positive, even though the interaction variable is not significant. This suggests the ratio of calls for service relative to the number of reported UCR crimes during the crisis is at least partially moderated unemployment.

The effect of unemployment on the full crime ratio at model 2 is also significantly related to increases in of the CFS relative to the rate of all UCR crimes, though it is only significant at the $p < 0.1$ level. This relationship, however, is no longer significant when the interaction between unemployment and the financial crisis is introduced. This suggests that the effect of unemployment is at least partially moderated by the crisis variable.

Analysis 5: The logged percent of those unemployed on the ratio of logged rate of property crimes to rate of UCR property crimes

In analysis group 5, I examine the relationship between the logged rate of unemployment and the property crime ratio. In this analysis group, the significant control variables are similar to those in analysis group 4, with the exception of percentage Hispanic which is no longer significant. Next, as with analysis group 4, the relationship between the financial crisis and my dependent variable is both significant and negative. The introduction of the interaction term at model 3, however, causes the relationship between the financial crisis and the property crime ratio to no longer be significant. This means that the relationship between the financial crisis and rate of property calls for service to property crimes is moderated by levels of unemployment. Said differently, this implies that although the post crisis years of 2010-2011 saw a decrease in the rate of calls for service to property crimes, this size of the increase is dependent on the rate of unemployment. The relationship between unemployment and the property crime ratio is significant and positive across all three models. It is important to note, however, that the effect size of the coefficient from model 2 to model 3 dramatically increases with the inclusion of the interaction term, which is significant and negative. Taken together, this suggests that while there is a significant, positive relationship between unemployment and the property crime ratio meaning there are increasingly more property CFS relative to property UCRs, during the crisis years -- the dramatic nature of that increase is damped. The increase in the coefficient when including the interaction term at model 3 demonstrates that the crisis years temper the true effect size of unemployment on the property crime ratio.

Analysis 6: The logged percent of those unemployed on the ratio of logged rate violent UCR crimes

Analysis group 6 measures the relationships between the logged rate of unemployment and the violent crime ratio. The relationships between the control variables and the dependent variable at analysis group 6 varies greatly from the property crime ratio at analysis group 5. As with the full crime ratio at analysis group 4, percentage Hispanic is a significant and negative predictor of the violent crime ratio. The relationships between the economic disadvantage score and percentage of young males, however, is different from the findings of either analysis group 4 or 5. In analysis group 6, the economic disadvantage score is positively related to the violent crime ratio, which suggests that as the level of economic disadvantage increases in a neighborhood, so does violent CFS relative to violent UCR crimes. Additionally, analysis group 6 shows that increases in the percentage of young males has a negative relationship with the violent crime ratio. This means that as the percentage of young males in a neighborhood increases, the number of calls for service relative to the number of violent crimes decreases. Finally, contrary to the previous ratio analysis groups, analysis group 6 shows that winter and fall are no longer significant predictors of the ratio. Instead, spring is positively related to the ratio of CFS to violent UCR crimes. This means that individuals call the police for violent UCR crimes at greater rates than in other months.

The effect of the financial crisis on the violent crime ratio in analysis group 6 is similar to the effects seen at analysis group 5. For analysis group 6, the impact of the financial crisis at models 1 and 2 is both significantly and negatively related to the violent crime ratio. Once the interaction term is included, however, the effect of the financial

crisis on the property crime ratio disappears. Additionally, the relationship between unemployment and the violent crime ratio behaves in a manner similar to the relationship between unemployment and the property crime ratio. At both models 2 and 3, the effect of unemployment on the ratio of violent CFS to violent UCR crimes is significant and positive. The effect size, however, is moderated by the interaction term. The interaction term at model 3 is significantly and negatively related to the violent crime ratio. This demonstrates that the crisis years temper the effect of unemployment on rate of CFS to property crimes.

In conclusion, the analyses presented above assesses different aspects of the U-C relationship. Analysis groups 1-3 represent changes in UCR crimes based on changes in unemployment. Conversely, analysis groups 4-6 examine the fluctuations in resident engagement in reporting crimes relative to fluctuations in the recorded crime rates. The nuances of these relationships will be discussed further in the next section.

DISCUSSION

Analysis of the U-C relationship has shown variations across varying historical and economic periods. Left untested in this relationship is how informal social control impacts the U-C association. The current study addresses this gap by examining whether unemployment impacts levels of informal social control. For interpretability, the results of each of my models are found on table 5. Additionally, the implications of this study will be discussed below.

Table 5. Relationship of Unemployment Across Models

| | Analysis Group 1: Effect of the Unemployment on all UCR Crimes | | | Analysis Group 2: Effect of the Unemployment on Property UCR Crimes | | | Analysis Group 3: Effect of the Unemployment on Violent UCR Crimes | | | Analysis Group 4: Effect of the Unemployment on the Full Crime Ratio | | | Analysis Group 5: Effect of the Unemployment on Property Crime Ratio | | | Analysis Group 6: Effect of the Unemployment on the Violent Crime Ratio | | |
|---|--|------------------|------------------|---|------------------|------------------|--|------------------|------------------|--|------------------|------------------|--|-------------------|------------------|---|-------------------|------------------|
| | Model 1 | Model 2 | Model 3 | Model 1 | Model 2 | Model 3 | Model 1 | Model 2 | Model 3 | Model 1 | Model 2 | Model 3 | Model 1 | Model 2 | Model 3 | Model 1 | Model 2 | Model 3 |
| Financial Crisis Years | -0.016 (0.015) | -0.015 (0.015) | -0.005 (0.021) | -0.023* (0.013) | -0.044** (0.014) | -0.035+ (0.018) | -0.008 (0.007) | -0.011 (0.007) | -0.013 (0.009) | -0.331** (0.037) | -0.338** (0.037) | 0.311** (0.044) | -0.058+ (0.031) | -0.088** (0.031) | -0.047 (0.038) | -0.136* (0.058) | -0.167** (0.059) | -0.039 (0.074) |
| Unemployment Rate | 0.114 (3.426) | -0.076 (3.454) | | 11.659** (2.701) | 14.649** (5.337) | | 2.018** (0.705) | 1.027 (2.300) | | 6.550+ (3.683) | 6.075 (3.785) | | 19.495** (3.275) | 37.697** (10.382) | | 23.182** (7.302) | 75.914** (19.114) | |
| Interaction between Unemployment and Crisis Years | 4.378 (5.603) | | | -3.617 (4.898) | | | 0.958 (2.254) | | | 12.883 (10.737) | | | -19.006+ (10.382) | | | -55.205** (19.038) | | |
| Percentage Hispanic | -0.346** (0.076) | -0.385** (0.087) | -0.408** (0.088) | -0.381** (0.058) | -0.497** (0.065) | -0.494** (0.066) | 0.015 (0.022) | 0.005 (0.023) | 0.008 (0.023) | -0.452** (0.058) | -0.478** (0.06) | -0.488** (0.06) | 0.086 (0.055) | 0.010 (0.055) | -0.004 (0.055) | -1.098** (0.104) | -1.194** (0.109) | -1.214** (0.109) |
| Percentage Black | 1.889* (0.857) | 3.021** (0.884) | 2.732** (0.864) | 1.221** (0.473) | 1.382** (0.478) | 1.254** (0.471) | 0.605** (0.149) | 0.619** (0.148) | 0.615** (0.148) | 1.351* (0.567) | 1.352* (0.567) | 1.358** (0.568) | 2.600** (0.578) | 2.670** (0.577) | 2.676** (0.577) | 7.751** (1.12) | 7.332** (1.112) | 7.369** (1.101) |
| Economic Disadvantage | 0.191** (0.038) | 0.126** (0.034) | 0.122** (0.033) | 0.348** (0.022) | 0.296** (0.022) | 0.302** (0.021) | 0.082** (0.007) | 0.076** (0.007) | 0.076** (0.007) | -0.115** (0.025) | -0.126** (0.026) | -0.125** (0.026) | -0.148** (0.025) | -0.171** (0.026) | -0.173** (0.026) | 0.291** (0.05) | 0.259** (0.05) | 0.232** (0.05) |
| Percentage Young Male | 0.956* (0.422) | 1.012* (0.512) | 1.130* (0.528) | -0.640+ (0.359) | 0.273 (0.431) | 0.254 (0.442) | -0.392** (0.133) | -0.288* (0.142) | -0.307* (0.144) | 2.690** (0.267) | 2.794** (0.272) | 2.841** (0.274) | 1.091** (0.248) | 1.327** (0.251) | 1.382** (0.252) | -5.600** (0.562) | -4.731** (0.598) | -4.535** (0.603) |
| Linear Time | -0.007** (0.001) | -0.007** (0.001) | -0.007** (0.001) | -0.003** (0.001) | -0.002** (0.001) | -0.002** (0.001) | -0.001** (0.000) | -0.001** (0.000) | -0.001** (0.000) | -0.009** (0.001) | -0.008** (0.001) | -0.008** (0.001) | -0.005** (0.001) | -0.003* (0.001) | -0.002* (0.001) | 0.001 (0.002) | 0.003 (0.002) | 0.004+ (0.002) |
| Winter | -0.002 (0.006) | -0.002 (0.006) | -0.002 (0.006) | -0.001 (0.006) | -0.001 (0.006) | -0.001 (0.006) | -0.007* (0.003) | -0.007* (0.003) | -0.007* (0.003) | -0.065** (0.022) | -0.064** (0.022) | -0.063** (0.022) | -0.039* (0.016) | -0.038* (0.016) | -0.037* (0.016) | -0.012 (0.03) | -0.011 (0.03) | -0.01 (0.03) |
| Spring | 0.021** (0.006) | 0.021** (0.006) | 0.021** (0.006) | 0.014** (0.005) | 0.014** (0.005) | 0.014** (0.005) | 0.001 (0.003) | 0.001 (0.003) | 0.001 (0.003) | -0.013 (0.021) | -0.011 (0.021) | -0.01 (0.021) | -0.019 (0.015) | -0.017 (0.015) | -0.016 (0.015) | 0.058* (0.027) | 0.059* (0.027) | 0.060* (0.027) |
| Fall | 0.001 (0.006) | 0.001 (0.006) | 0.001 (0.006) | -0.005 (0.005) | -0.005 (0.005) | -0.005 (0.005) | -0.007* (0.003) | -0.007* (0.003) | -0.007* (0.003) | -0.041* (0.021) | -0.042* (0.021) | -0.042* (0.021) | -0.030* (0.015) | -0.031* (0.015) | -0.031* (0.015) | 0.002 (0.027) | 0.001 (0.027) | 0 (0.027) |
| Constant | 4.561 (0.455) | 4.693 (0.473) | 4.683 (0.470) | 2.113 (0.349) | 11.659 (2.701) | 1.509 (3.369) | 0.925 (0.136) | 0.774 (0.143) | 0.787 (0.146) | 5.795 (0.726) | 6.357 (0.664) | 5.343 (0.705) | 3.820 (0.588) | 2.292 (0.633) | 2.046 (0.646) | 2.656 (1.153) | 1.018 (1.280) | 1.018 (1.289) |

Notes: Standard errors in parentheses
+ p < 0.10.
* p < 0.05.
** p < 0.01.

Of my control variables, there are several noteworthy fluctuations across analysis groups. Specifically, the relationships between race and ethnicity and my dependent variables merit further examination. As for ethnicity, percentage Hispanic has a negative relationship with many of my dependent variables. In the UCR models, the percentage of Hispanic individuals in a neighborhood is a significant predictor of lower levels of both all UCR crimes as well as violent UCR crimes. Conversely, the relationship between percentage Hispanic and engagement in informal social control is negatively related to both the full crime ratio and the violent crime ratio. Together, this suggests that neighborhoods with higher percentages of Hispanic residents simultaneously have lower levels of crime, but also call the police less relative to the rate at which these crimes are being committed. There may be several factors that explain this relationship.

First, Sampson (2012) finds that neighborhoods with higher levels of first generation immigrants often have lower levels of crime. It is possible that the relationship between percentage Hispanic and UCR crimes observed in the current study is reflective of Sampson's (2012) finding. Second, the lower levels of calls for service could indicate an unwillingness by Hispanic individuals to invite the police into their neighborhoods. Cantor (1985) finds that, although Hispanic individuals have high standards for how they believe police should behave, they are often disappointed with police activity. Additionally, Cantor (1985) finds that Hispanic individuals often believe that police behave in a discriminatory manner. Taken together, this could mean that Hispanics are more likely to enact informal social control directly as opposed to indirectly – via the police -- who they may see as underperforming and discriminatory.

Although I observed a consistently negative relationship between my ethnicity variable – percentage Hispanic – and my dependent variables, my analysis shows the opposite for my race measure – percentage black. This variable is both positive and significant for each of my models. This suggests that neighborhoods with a higher percentage of black individuals often have higher levels of crime as well as elevated levels of calls for service relative to actual crimes. Taken separately, the positive relationship between percentage black and number of crimes may be an artifact of the neighborhoods black residents inhabit. Indeed, these neighborhoods are often marked by social disorganization due to elevated levels of residential mobility (Sampson, 2012). This often occurs because, as the number of black individuals in a neighborhood increases, other racial groups often begin to leave (Frey, 1979; Sampson, 2012; Wilson, 1987), thereby creating areas with high percentages of black residents that lack residential stability (Sampson, 2012). This lack of residential stability may lead to increases in crime rates due to social disorganization (Sampson & Groves, 1989; Shaw & McKay, 1942). Conversely, the elevated levels of calls for service relative to number of crimes may be generated by residential turnover. If many of these individuals are living in areas marked by high residential turnover, then they may not be able to establish networks. This is a barrier to direct forms of social control. Neighborhoods with higher percentages of black residents may call the police instead of directly intervening because they do not feel as though direct confrontation is an option.

Unlike either of my demographic variables, my measure of economic disadvantage largely behaves in accordance with the literature. The exception to this is how economic disadvantage impacts the number of calls for service relative to number of

violent crimes. In all other instances, economic disadvantage is strongly linked to increases in crime and decreases in informal social control. For the violent crime ratio, however, this relationship is positive. This may be because extremely impoverished areas are more likely to suffer from elevated levels of gang violence and drug trade (Anderson, 1999). In this instance, it could be that individuals are reporting these conflicts, but they are not resulting in arrest. Anderson (1999) documents how extremely impoverished areas marked by elevated crime rates may be disheartening to police as no amount of corrective action seems to deter future crimes. As a result, police officers may be less likely to actually perform an arrest. Next, I examine the key findings for my independent variables.

The relationship between the financial crisis and levels of informal social control as well as crime rates are somewhat surprising. For example, the financial crisis is significantly and negatively related to property crimes as well as each of the crime ratios. The negative relationship between property crimes during the financial crisis is initially unexpected. Thinking critically, however, it is likely that this is due to the delayed nature of motivation. As outlined in the literature review, the likelihood that an individual will become a motivated offender is dependent on several factors such as access to resources (Crutchfield, 2014). As time continues and access to legitimate resources decreases, increases in motivation may occur. This means that the negative relationship between property crimes and the financial crisis may be due in large part to the fact that motivation has not set in. Several scholars have speculated that increases in unemployment initially leads to decreases in crime as more people spend time at home providing additional guardianship over the neighborhood (Cantor & Land, 1985; Phillips

& Land, 2012). This hypothesis, however, is a bit out of line with my finding that informal social control did not increase over the financial crisis. When taken together, it could be that although crimes are decreasing – as seen in my property crime findings – or uninfluenced by the crisis – as seen with my all UCR crimes and violent crime findings – an individual’s willingness to participate in social control is not elevated. In sum, although increasing the number of people at home may not increase willingness to participate in informal social control, it may reduce crime by simply increasing the number of people at home, which – at a minimum – provides guardianship over the unemployed individual’s property.

This lack of participation may be related to a decrease in the desire to participate. Sampson (2008) notes that participation in social control has an “agentic” quality. This means that engagement is related to the human desire to maintain order and participate in collective action. Unemployment may deter individuals from participating by decreasing their agentic desires. Kruger and Mueller (2011) note the adverse impact unemployment can have on an individual’s emotional and mental well-being. Taken together, individuals who are experiencing sadness and an elevated level of distress due to their unemployment may no longer possess the agency required to participate in informal social control.

Although the relationship between the financial crisis and my dependent variables is consistently negative, my analysis of unemployment and my dependent variables is consistently positive. For example, unemployment is significantly related to my measure of property crimes and violent crimes. This relationship is not changed by the financial crisis. This relationship is somewhat surprising given the expectation that unemployment would not be significantly related to increases in the number of violent crimes. This may

be due to increases in illegal activity associated with increased levels of unemployment in deprived neighborhoods. Specifically, in areas mirroring the conditions of deindustrialization, those without the prospect of future employment may turn to underground activity such as gang involvement or drug trade (Anderson, 1999; Florence et al., 2013). In conditions such as these, unemployment may lead to increases in violent crime because of increases in risky behaviors.

Additionally, unemployment is significantly and positively related to increases in the number of calls relative to the number of both property and violent UCR crimes. This relationship does not change over the financial crisis. Although the crisis does somewhat suppress the relationship, it does not moderate the relationship. This means that unemployment is significantly related to both increases in crime as well as increases in informal social control. There are several possible explanations for these findings. First, it is possible that the very nature of putting individuals back in homes produces more calls for service. As argued by Cohen and Felson (1979), increases in property crimes over the 1980s were directly related to the cultural shift of taking guardians out of the home and putting them to work. Putting these guardians back in the home effectively produces increases in informal social control due to the nature of increased guardianship. This logic, however, seems to imply that if individuals are at home, they will participate in informal social control which assumes that each of the neighborhoods adversely affected by unemployment benefited from increased levels of collective efficacy. It is also possible that this finding is a mixture of routine activities and stable levels of informal social control. Under this assumption, unemployment does not directly increase levels of

informal social control; rather, it increases the time spent at home by those who will participate.

Second, it is possible that the true effect of unemployment is getting washed out at the aggregate level. Under this assumption, not all types of neighborhoods are adversely influenced by increases in the unemployment rate. Those sent back to neighborhoods with higher levels of collective efficacy are using their increased time in the neighborhood to enforce order. Conversely, those spending time in neighborhoods with lower levels of efficacy are committing more crimes. Because of the association between citizen engagement and socioeconomic status (Sampson & Groves, 1989; Sampson, 2008), however, there may be less to steal in neighborhoods with low levels of collective efficacy. In sum, it may be that neighborhoods that have high levels of efficacy are benefitting from the influx of time spent at home, while those with lower levels of efficacy are suffering from unemployment. Said differently, an influx of unemployed individuals in a neighborhood with low levels of informal social control may drive increases in UCR crimes while increases in the number of unemployed individuals in neighborhoods with high levels of informal social control may lead to increases participation in informal social control.

Finally, the coefficient size of the violent crime ratio merits further discussion. While there is also a significant, positive relationship seen in the property crimes ratio, the coefficient for violent crimes far exceeds that of property crimes. This suggests that that individuals are reporting violent crimes to the police relative to recorded violent UCR crimes at rates which far exceed the rate at which individuals are reporting property crimes relative to property UCR crimes. Although the size of the coefficient may initially

be surprising, this finding is in line with much of the victimization literature. This literature shows that the likelihood a crime will be reported to the police is often related to the objective seriousness of the crime (Skogan, 1976; Tarling & Morris, 2010). Instances where it is evident that someone has been wronged and retribution is deserved are more likely to be reported to the police (Spelman & Brown, 1984). Otherwise, individuals may be unsure if it is worth the perceived hassle of reporting the act. Indeed, this correlation between severity and the likeliness that individuals will report is echoed in consistent trends which show that violent crimes are more likely to be reported to the police than are property crimes (Baumer & Lauritsen, 2010). In sum, although it may seem initially surprising that the coefficient for the violent crime ratio is so large, the severity of these crimes helps to clarify the strength of this relationship.

LIMITATIONS

There are several limitations associated with the present study. First, the present study may not be generalizable to other areas. These findings may only be applicable to Glendale, Arizona for the years 2007-2011. Second, the use of UCR data for measuring crime rates may drastically undercount the number of reported crimes. The Uniform Crime Report utilizes the hierarchical rule. This means that the crime considered most severe is what is reported and all other crimes associated with the incident go unreported. Third, although residential mobility has been consistently linked to changes in informal social control (Sampson & Groves, 1989; Shaw & McKay, 1942), the present study was unable to accurately capture levels of residential mobility in neighborhoods. Considering the housing crisis which occurred over the Great Recession, and the potential for elevated mobility during this time, not including this variable could be driving my finding that the

financial crisis has a negative relationship with levels of informal social control. Fourth, much is still unknown about using calls for service as a proxy for measuring levels of informal social control. It is possible that residents simply call the police because they do not have the resources to enforce any other type of corrective action. Future research should continue to assess the viability of calls for service as a proxy for measuring informal social control.

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