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The Walls Are Closing In: Comparing Property Crime Victimization Risk In Gated And Non-Gated Communities

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The Walls are Closing in: Comparing Property Crime Victimization Risk in Gated

and Non-Gated Communities

by

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A thesis submitted in partial fulfillment
of the requirements for the degree of
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ABSTRACT

In recent years, a growing proportion of the population has moved into gated communities in response to an increasingly pandemic fear of crime. While a sizable body of research has addressed fear of crime and perceived safety in gated communities, few studies have investigated actual rates of victimization. The studies that do compare victimization in gated and non-gated communities tend to be localized assessments and present mixed findings on the effectiveness of community gating as a form of protection from crime.

The present study utilizes a cross-section of National Crime Victimization Survey data to investigate the micro-level effects of living in gated communities across the United States. Additionally, a routine activities approach is used to determine whether increasing levels of guardianship exhibit differential effects in gated versus non-gated communities. Findings from logit and rare events logit regression analyses generally suggest that living in a gated community does not significantly influence the likelihood of victimization, although in some cases the odds either increased or decreased. Other measures of guardianship exhibit a variety of positive and negative effects on victimization likelihood.

Suggestions for future research on gated communities and victimization include more comprehensive measurement of community- and household-level security as well as taking account of community characteristics such as informal social control and

residential solidarity. Policy implications from this research include greater attention to gated community design and layout in order to reduce the likelihood of residents being victimized. In addition, residents may benefit from education on the actual risks of crime and realistic steps to reduce the likelihood of being targeted by potential offenders.

CHAPTER ONE:

INTRODUCTION

Recent decades have seen a gradual evolution in the realm of community designs, aesthetics, and functions. Similar to the widespread standards of the 1950s "Great Society," which emphasized white picket fences, uniform houses, and pleasant neighbors, many homeowners in America (Blakely & Snyder, 1997; Helsley & Strange, 1999) as well as internationally (Asiedu & Arku, 2009; Atkinson & Flint, 2004; Kenna, 2010) now demonstrate a growing demand for protected, isolated homes, which developers and builders continue to address in greater numbers (Grant & Mittelsteadt, 2004). These housing developments are known commonly as gated communities. In their seminal work on the subject, Blakely and Snyder (1997) defined gated communities as:

> Residential areas with restricted access in which normally public spaces
> are privatized. They are security developments with designated perimeters,
> usually walls or fences, and controlled entrances that are intended to
> prevent penetration by nonresidents. They include new developments and
> older areas retrofitted with gates and fences, and they are found from the
> inner cities to the exurbs and from the richest neighborhoods to the
> poorest. (p. 2)

These authors estimated that in the United States alone, approximately three million households resided within the confines of a gated community, and this figure has increased substantially in the years since (Low, 2003; McKenzie, 2005). The rising popularity of this style of living indicates a broader paradigm shift in the minds of the American people. More specifically, Stark (1998) observed that this phenomenon stems from citizens' growing interest in public and private space and the desire to craft barriers that separate the two aspects.

Given the modern rise of gated communities, it is important to consider why people move into these areas. Motivated individuals may decide to self-select into gated communities for a number of reasons, often according to personal preference for a specific type of design or priority. These bastions can provide a variety of specialized functions for residents, such as providing a sense of status and prestige (Blakely & Snyder, 1998; Romig, 2005; Sanchez, Lang, & Dhavale, 2005) and allowing for private governance (Chen & Webster, 2005; Kenna, 2010; McKenzie, 2005). While these ideals are certainly realized in a broad range of communities, including more affluent areas seeking "privatised utopia" (McKenzie, 2005, p. 187), many individuals desire a sense of protection rather than heightened status (Blakely & Snyder, 1997; Low, 2003). These residents often entertain fears of being criminally victimized. As a result, they may move into a gated community to further distances themselves from perceived risks and threats.

By contrast, many people choose not to move into gated communities. The decision to seek non-gated housing may be interpreted in part as disinterest towards the elements and advertisements of gated communities. For example, a potential resident may be dissuaded by the idea of restrictive or overbearing community governance.

Homeowners' associations may also be culturally unpopular in some places (Chen & Webster, 2005). An additional possibility is that potential residents may not be motivated by a fear of crime. As a result, these individuals may find the confines of a community gate and walls to be stifling rather than encouraging. Finally, the decision to move into a gated or non-gated community may be based on indifference. For some, it may be more important to select a residence based on factors such as proximity to one's job rather than whether the community is gated.

In addition to the enticement of certain priorities and functions, an individual's ability to move into a gated community may be moderated by his or her financial resources and social capital. High-end, gated residences tend to be more costly and are generally exclusive to affluent residents (Grant & Mittelsteadt, 2004), although many gated communities are not so grandiose. In this way, gated communities are not necessarily restricted to the upper classes (Sanchez et al., 2005), but many scholars remain critical of community gating as a reification of class differences. Luymes (1997) recounted how the decentralization of labor contributed historically to members of the middle and upper classes moving out of urban environments. By contrast, members of the lower classes remained in the cities, due in large part to their lack of resources. Luymes (1997) further argued that certain, modern communities use walls and gates to define territory and ward off outsiders, particularly as urban residents receive greater mobility and access to the suburbs.

Economic and class-based factors may differentially inhibit certain populations from living in particular gated communities, but that is not to say that members of the urban lower class cannot live in gated communities. Stark (1998) noted that "public-

private borders are also being shifted in hundreds of poor and middle-class city neighborhoods, where aroused residents fighting crime, traffic, and blight are demanding to have the public streets barricaded or gated against drug dealers and other outsiders" (p 62). As a result, many public housing projects are being fortified and turned into gated communities (Blakely & Snyder, 1997; Grant & Mittelsteadt, 2004).

A key difference amongst gated communities, though, is the degree of protections and securities afforded to residents. These elements exist largely as a function of available financial resources, as wealthier communities can afford higher-quality and more extensive amenities than poorer ones (Low, 2003). Ultimately, this economic scaling carries expected implications in terms of residents' victimization risks. Gated communities with stronger economic backings may be better able to ward off victimization because of more sophisticated gates, walls, and other securities, which would decrease residents' risk of victimization. By contrast, individuals living in gated communities with fewer resources may feature a greater likelihood of victimization by comparison.

One may also expect the risk of being victimized to differ depending on whether an individual lives in a gated or non-gated community. For example, the presence of a gate and walls may physically inhibit potential offenders from victimizing residents in gated communities and lower their respective risks as a result. Conversely, residents who live in these communities may become reliant on the gates and walls as symbolic barriers to potential offenders (Dupuis & Thorns, 2008). Placing too much trust in a protective gate may lead these residents to fall into a false sense of security (Romig, 2005), which otherwise would not exist for members of non-gated communities. In such a case, the

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latter group would be expected to have a lower risk of victimization due to a better awareness of and need for personal initiative to keep themselves safe from harm.

The purpose of the present study is to assess the effectiveness of gated communities in reducing the likelihood of property crime victimization. Past research on gated communities reveals that fear of victimization is a prominent theme among residents and that these individuals often seek out enclosed living spaces for protection against victimization (Low, 2001; Low, 2003; Vilalta, 2011; Wilson-Doenges, 2000). While many of these studies address the perceptions and interactions of community members, fewer focus on actual victimization. Moreover, the studies that do focus specifically on victimization tend to draw localized samples, which limits the generalizability of their findings.

The current study seeks to address these shortcomings and provide a more nationally representative assessment of victimization risk in gated communities using data from the 2009 National Crime Victimization Survey. Following the tenets of routine activities theory, measures of household-level guardianship and demography are used to investigate household risk of property crime victimization. More specifically, two research questions guide the current study: first, this study addresses whether living in a gated community results in lower, equal, or greater risk of property crime victimization relative to non-gated communities. In addition, this research investigates whether residence in a gated community interacts with other guardianship measures in predicting victimization risk. The findings presented in this study provide a number of implications for future research and policy regarding gated communities and victimization risk.

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CHAPTER TWO:

THEORETICAL FRAMEWORK

This study incorporates routine activities theory (Cohen & Felson, 1979; Cohen, Kluegel, & Land, 1981; Felson & Cohen, 1980) as a framework for understanding individual-level property crime victimization risk and the utility of protective factors in mitigating that risk. Cohen and Felson (1979) posited that any particular criminal event will involve an able and motivated offender, an individual or object that provides a suitable target, and a lack of capable guardians who might inhibit the offender. In addition, a dearth of any of the three elements is expected to prevent victimization from occurring (Felson & Cohen, 1980).

The concept of guardianship is one of the key foci of the current study. As illustrated above, the presence of efficacious guardians is expected to decrease the likelihood of a motivated offender targeting a particular community or, more specifically, a particular household. Cohen and Felson (1979) made the important distinction that capable guardians are not necessarily limited to formal methods of control (i.e. police). In addition to law enforcement officers, informal security measures may include features such as physical barriers, residential solidarity, or private security personnel. These elements may provide their own degree of guardianship within the community (Coupe & Blake, 2006), although greater amounts and qualities of these protections require

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substantial financial investment and often depend on available community resources (Grant & Mittelsteadt, 2004).

The combination of available guardians and protections establish a degree of target hardening, which influences whether potential criminals view a particular target as attractive and worthwhile (Cornish & Clarke, 1987). For instance, Mustaine and Tewksbury (1998) observed that security measures such as owning a dog or installing an extra lock on the doors to a home provided added guardianship against larceny victimization. Likewise, community layout and the location of elements such as bars or parks relative to potential victims influences the likelihood of being victimized (Tewksbury & Mustaine, 2000).

Gated communities are designed to physically inhibit outsiders in order to reduce the likelihood of criminal offending. Felson (1998) discussed how the setup of a community can have substantial effects on the opportunities for and likelihood of victimization. He drew on three basic approaches on how to "design out crime" (p. 150): 1) control natural access, 2) provide natural surveillance, and 3) foster territorial behavior (i.e. clear demarcation of boundaries and properties). These initiatives can reduce the amount of victimization in the community as a whole. Felson also advised that individual-level features of homes, such as landscaping and fence design, line of sight from neighbors, and which way the house faces in relation to the street, can likewise affect the odds of being victimized. Similar to Felson's (1998) arguments, there is a growing body of literature that has been designated "Crime Prevention Through Environmental Design" (CPTED; for review, see Cozens, Saville, & Hillier, 2005), which asserts that particular design and use of the built environment can reduce fear of

crime as well as actual crime and victimization experiences. In particular, the CPTED model consists of territoriality, surveillance, access control, target hardening, image/maintenance, and activity support, which all combine to influence the likelihood of victimization.

Consistent with Felson's (1998) arguments, Coupe & Blake (2006) found that burglars are significantly more likely to target households with more cover around the premises as well as homes that are more distant from neighboring residences. Their findings suggest that visibility from neighbors is an important factor in calculating the risk of being caught and that an expansive line of sight, in addition to a greater number of neighbors, decreases the likelihood of victimization. Specifically, the authors found that each neighbor with a clear view of the burglarized home increased the chance of offenders being seen by 10% (Coupe & Blake, 2006). Similarly, Nee and Meenaghan (2006) noted that once an offender is motivated to commit burglary, the majority will actively search for an attractive target while a minority plan specific houses to burglarize ahead of time. They also pointed out that offenders judge the attractiveness of a potential target according to "relative wealth, occupancy, *access, and security*" (p 942; emphasis added). All in all, the physical environment may be attuned to criminal vulnerabilities and counter these weaknesses with purposeful design. By contrast, failing to account for these strategies may inadvertently make a community a more preferential target for offenders.

Routine activities theory has traditionally been utilized as a macro-level explanation of crime. In their initial application of the theory, Cohen and Felson (1979) argued that the United States experienced a general cultural shift in the routine activities

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of its citizens. Ultimately, these changes meant that motivated offenders would be more likely to converge with valuable targets while the presence of capable, preventative guardians would simultaneously be less likely. Though their theory was developed to explain national trends in crime rates, Cohen and Felson (1979) made the important distinction that their theory is not limited to macro-level analyses:

> The veracity of the routine activity approach can be assessed by analyses of both microlevel and macrolevel interdependencies of human activities. While consistency at the former level may appear noncontroversial, or even obvious, one nonetheless needs to show that the approach does not contradict existing data before proceeding to investigate the latter level (p. 594).

Consistent with this mandate, a body of past research has utilized routine activities theory to examine victimization risk specifically at the individual level (Holtfreter, Reisig, & Pratt, 2008; Mustaine & Tewksbury, 1998; Tewksbury & Mustaine, 2000). Furthermore, Felson (1998) explained how individual-level differences in routine activities may theoretically influence the likelihood of being victimized. For example, a house with more access points or more potential hiding places would be at greater risk than a neighboring house with fewer vulnerabilities. Similarly, a motor vehicle with more attached accessories or property that is visible within would be a more attractive target than a nearby vehicle without these amenities. Consistent with earlier works, the current study incorporates a similar theoretical approach and assesses how household-level differences in guardianship and demography affect individuals' risks of property crime victimization.

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CHAPTER THREE:

LITERATURE REVIEW

A substantial body of literature addresses the growth of gated communities, although only a few studies investigate the actual occurrence of victimization within these locations. More specifically, four studies examining crime and victimization within gated and non-gated communities were identified. The studies that constitute this limited subsection of the gated communities literature also indicated mixed results concerning the effectiveness of community gating practices. Blakely and Snyder (1997; 1998) provided one of the first modern assessments. According to their interviews with local police, "crime rates varied by area but not between gated and un-gated neighborhoods in the same area. A few [officers] even believed they hampered police efforts, because gates slowed response time, walls blocked sight lines, and residents gained a false sense of security" (p. 66). Despite the authors' separate conclusion that gates and walls do not actually affect crime rates, a vast majority of surveyed residents reported that they believed their community dealt with fewer criminal offenses than nearby communities. More specifically, the residents believed that this difference was largely due to the gate positioned at the entrance to their housing development.

Similar to these earlier findings, Wilson-Doenges (2000) examined differences in victimization rates between four gated and non-gated communities. She selected one high-SES gated community and one with lower-SES and then matched each of these

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locations with a corresponding non-gated community. Using U.S. Census data, she was then able to match the dyads according to population density, size, ethnicity, income, and housing characteristics in order to maximize comparability. Within the higher income areas, Wilson-Doenges found no significant difference between criminal victimization in the gated and non-gated communities. Similarly, no significant differences existed between the lower income gated and non-gated complexes.

After surveying residents from a total of 18 communities, Kim (2006) reached mixed conclusions regarding the individuals' experiences with property crime victimization. It is important to note that the author drew her sample from a combination of gated, perceived gated, and non-gated communities. She differentiated the perceived gated communities as housing areas with fences and gates but not full control over traffic (i.e. gates being left open). Drawing on responses from 207 participants, Kim found no significant differences between type of community and personal property victimization. In addition to personal victimization experiences, respondents were also asked about neighbors' victimization. For the latter frequencies, the data indicated that gated communities featured significantly higher rates of vicarious victimization than perceived gated or non-gated communities. The majority of neighbors' experiences consisted of stolen motor vehicle parts, although a variety of thefts were reported.

Helsley and Strange (1999) provided an additional assessment of gated communities and crime, although their approach differed from the above studies. Rather than drawing on actual communities, the authors created a simulated mathematical model of a gated and non-gated community based on the Nash Equilibrium. Provided that the two locations were equally attractive criminal targets and that a finite number of

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offenders existed, the authors found that greater financial investment in a protective gate reduced the attractiveness of the gated community as a target. As a result, offenders were diverted to the non-gated community, which enhanced its own defenses to resist victimization. While their model is entirely abstracted, the authors' findings suggest that gating may deter offenders and that degrees of security may influence the likelihood of victimization.

Fear of Crime

While a small portion of the literature on gated communities addresses actual crime and victimization, a much greater body of research focuses on the motivations for moving into these communities. Recent decades have entertained an increasingly rampant fear of crime, which is prevalent in the United States (Blakely & Snyder, 1997; Weitzer & Kubrin, 2004) as well as internationally (Asiedu & Arku, 2009; Atkinson & Flint, 2004; Lemanski, Landman, & Durington, 2008; Vilalta, 2011). Dupuis and Thorns (2008) observed that even in New Zealand, which features one of the lowest crime rates in the world, citizens are moving into gated communities in greater numbers. The authors contended that the population of New Zealand, and more broadly the international community, entertains an eroding trust in state institutions that have traditionally offered protection and fostered a sense of public safety. As a result, the growing popularity of gated communities is indicative of a larger shift towards micro-level attempts at risk management as public anxieties about crime and victimization increase.

In their synthesis of past literature, Austin, Furr, and Spine (2002) stated that three main factors influence how individuals construct and maintain their fear of crime: 1) demographic effects, 2) past victimization experience, and 3) local neighborhood and urban conditions. Concerning demography, the literature concludes that females generally exhibit a greater fear of crime and lower feelings of safety compared to males (Jackson, 2009; Jennings, Gover, & Pudrzynska, 2007; Schafer, Huebner, & Bynum, 2006). In addition, empirical evidence is mixed on whether older individuals are more (Austin et al., 2002; Scarborough, Like-Haislip, Novak, Lucas, & Alarid, 2010; Roman &

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Chalfin, 2008) or less (Jackson, 2009; May, Rader, & Goodrum, 2010) fearful of victimization. Finally, individuals with higher socioeconomic status and education tend to experience either lower fearfulness or no significant change (May et al., 2010; Roccato, Russo, & Vieno, 2011; Rountree, 1998; Scarborough et al., 2010; Schafer et al., 2006).

Historically, the notion that prior victimization contributes to a greater fear of crime has found support in the literature (May et al., 2010; Rader, May, & Goodrum, 2007; Rountree, 1998), although some studies maintain that this relationship is somewhat nebulous. In their assessment of an Italian sample, Roccato and others (2011) found that community-level measures were significant predictors of subjects' fear of crime, whereas victimization experiences were not significant. Cook and Fox (2011) reached similar findings in their study of property crime victimization and fear of subsequent crime. Across six models addressing different types of property offenses, none of the victimization measures significantly predicted respondents' fears, although the authors noted that low victimization frequencies may have influenced these null findings. Past research has also examined the longitudinal effects of victimization in shaping one's anxieties. For example, Shippee (2012) observed that among members of his sample who had been victimized, a greater fear of crime significantly decreased respondents' sense of personal control at time 1. These effects were lessened at time 2, where fear of crime was no longer significant in predicting sense of control. Overall, these findings indicate that victimization experiences may increase fear of crime as well as the impact of that fear initially, but over time the influence of fear wanes unless the person's anxieties are rekindled by additional victimization experiences (Shippee, 2012).

In addition to direct experiences, vicarious victimization (Akers, La Greca, Sellers, & Cochran, 1987; Rader et al., 2007) and perceiving high amounts of crime in the community (Schafer et al., 2006) promote fear about being victimized. An example of vicarious experience that is often evoked when describing the widespread fear of crime is the availability and content of modern media (Altheide, 1997; Banks, 2005; Romer, Jamieson, & Aday, 2003; Weitzer & Kubrin, 2004). A variety of news and entertainment sources contribute to the public's inflated perceptions of crime and victimization risk because these programs often illustrate the world as a dangerous place or give viewers the impression that victimization is more likely than it is in actuality. For this reason, local news tends to be associated strongly with viewers' fear of crime because stories of victimization are more proximal and easier to relate to (Chiricos, Padgett, & Gertz, 2000; Weitzer & Kubrin, 2004).

Community characteristics also play a valuable role in defining residents' levels of anxiety about victimization and personal safety. Past research suggests that greater levels of disorder or incivility in the community tend to increase residents' fears of being victimized (Roccato et al., 2011; Rountree, 1998; Scarborough et al., 2010; Schafer et al., 2006), although Hipp (2010) noted that examinations of disorder may be subject to substantial bias and error. Many authors have split the concept into aspects of social and physical disorder. The former often includes elements such as public drug use, homelessness, and reckless driving, whereas the latter addresses issues such as vandalism, abandoned homes, and litter. Research indicates that both elements offer unique contributions to individuals' feelings of safety, although perceiving physical disorder tends to have a stronger effect than its social counterpart (Roccato et al., 2011;

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Scarborough et al., 2010) and these effects have been shown to hold across gender (Schafer et al., 2006).

Closely related to community disorder are the issues of resident cohesion and sense of community, which can help to create a safer, more stable living environment (Hope, 1995; Ross & Jang, 2000; Sampson, Raudenbusch, & Earls, 1997; Scarborough et al., 2010). Ultimately, these concepts borrow from the tenets of social disorganization theory (Sampson & Groves, 1989; Sampson et al., 1997), which dictates that residents in a more integrated, cohesive community will maintain informal social control over the area and reduce the prevalence of crime and disorder. The effects of residents' sense of community on their fear of crime appear to be similar to the influence of actual criminal behavior on their fears. A stronger sense of community unity and interaction tends to diminish residents' anxieties about victimization (Gibson, Zhao, Lovrich, & Gaffney, 2002; Schweitzer, Kim, & Mackin, 1999). Gibson and colleagues (2002) have also observed that this relationship was mediated by the concept of collective efficacy (Sampson et al., 1997), which indicates that criminal fears may be alleviated when neighbors trust one another to protect the community.

Fear of Crime and Gated Communities

As a precaution against perceived danger, many individuals move into protected communities with the intention of reducing their likelihood of victimization and increasing their sense of safety (Asiedu & Arku, 2009; Sanchez et al., 2005; Wilson-Doenges, 2000). A natural response to both perceived threat and actual victimization is to erect boundaries as a means of protection and to effectively differentiate from the people who represent those threats. Rader and colleagues (2007) found that individuals with higher fear of crime, as well as victimization experience, were significantly more likely to engage in defensive behaviors in an attempt to prevent future victimization. It is no coincidence, then, that gated communities are "aggressively visible, and therefore readily observable by criminals…its sole purpose is to divert or deter criminals *ex ante*" (Helsley & Strange, 1999, p. 82; italics in original). One of the primary goals of these environments is to influence the perceptions of the local population. For would-be offenders, these totemic barriers are intended to implant hesitance to commit crime and increase the likelihood of community-level deterrence. Conversely, these same edifices are meant to assuage the concerns of residents (Dupuis & Thorns, 2008), although in many cases fear of crime persists regardless of the presence of community walls and gates (Vilalta, 2011).

Despite the clear intent of community gating, the effectiveness of these protective measures in reducing residents' fears of crime and increasing sense of unity is less clear. Members of some gated communities have reported a strong sense of community among residents and that residents are friendlier (Asiedu & Arku, 2009; Blakely & Snyder, 1997). As a result, residents who are more unified may feel a heightened sense of

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relative safety. More specifically, some residents of gated communities perceive that their housing complex suffers less crime than other communities in the surrounding area, regardless of actual crime rates (Wilson-Doenges, 2000).

Other evidence indicates that living in a gated community does not significantly decrease fear of crime compared to living in non-gated housing complexes (Vilalta, 2011) and may even be associated with greater levels of anxiety (Abdullah, Salleh, & Sakip, 2012). Moreover, gating can have negative effects on community solidarity. For example, Wilson-Doenges (2000) reported that residents in a high-income gated community exhibited a significantly lower sense of solidarity than members of a comparable non-gated community, whereas the low-income gated and non-gated communities were indistinguishable. In summary, past research is inconclusive on whether gated communities fulfill their promises of fostering residential unity, assuaging residents' fear of crime, and reducing the likelihood of victimization within the community.

CHAPTER FOUR:

THE PRESENT STUDY

The current study addresses the efficacy of community security measures, particularly gates that restrict access into the community, toward reducing property offense victimization using the 2009 National Crime Victimization Survey (NCVS; Bureau of Justice Statistics, 2009). The NCVS is a nationally representative household survey that draws its sample from the decennial U.S. Census data using a stratified, multi-stage cluster design. Participants are interviewed in person or over the telephone and asked to provide self-report accounts of criminal victimization within the six months prior to the interview. In addition, respective household and area-level data are collected for each interviewee. Participants are subsequently interviewed once every six months across a three-year period before being dropped from the sample via a rotating panel design.

The NCVS features a number of benefits compared to alternative sources of official crime statistics. For one, information is collected through respondent self-reporting, which allows the NCVS to account for many instances of victimization that would otherwise be unreported to authorities and ultimately reduces the bias caused by the dark figure of crime. Past research indicates that self-report methods are reliable and valid, although underreporting may be an issue in certain cases such as reporting by African-American males or reporting of increasingly serious offenses (Thornberry &

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Krohn, 2000). As stated above, the NCVS data are designed to be nationally representative as well. Other official data aggregations such as the UCR and NIBRS systems suffer from law enforcement agency nonresponse, which leads to generalizability issues. The NCVS mitigates the effect of non-reporting by spreading data collection across a randomly-selected sample of American households rather than relying on agencies to submit official data compilations. It is important to note, though, that this sample is derived from an initial clustering design rather than being a simple random sample of households.

A final advantage of the data lies in the way that NCVS data is collected. More specifically, the NCVS does not follow the "hierarchy rule," which is an inherent limitation to the UCR data collection protocol. Under the hierarchy rule, events with multiple offenses are only recorded as the most serious offense (e.g. murder trumps robbery). Conversely, NCVS respondents are able to self-report multiple offenses, which provide a more accurate account of victimization experiences than if responses were otherwise condensed. The NIBRS system does not follow the hierarchy rule either, although these data do not include community measures such as community gating or household characteristics. As a result, the NCVS is a more appropriate dataset for this study because it accounts for victim characteristics as well as community-level security and guardianship.

Overall, the NCVS data are organized into five sections (Bureau of Justice Statistics, 2009). For example, the "person record-type file" (section three) focuses on personal information for household residents and their respective victimization experiences, whereas the "incident record-type file" (section four) investigates specific

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elements of the victimization events, such as evidence, knowledge of the offender, and victims' injuries. The quality of each section varies, as each differs in terms of information gathered, variables used for measurement, and number of cases.

Consistent with earlier research (Kim, 2006; Reiboldt & Vogel, 2003), the present study focuses specifically on property crime victimization in gated communities rather than violent victimization. To that end, this study employs a cross-section of the "household record-type file" data (section two) found in the 2009 NCVS report. As indicated above, these data contain information on specific households, including building characteristics and resident demography, as well as the communities that encompass those homes. While there are no measures of violent victimization in this section of the NCVS, the section does contain a battery of property crime victimization variables that are used to address the following two research questions:

> 1) Does living in a gated community result in lower, equivalent, or greater likelihood of property crime victimization than in non-gated communities?
>
> 2) Does an interactive relationship exist between community gating and other protective factors?

Concerning the former question, past research has been inconclusive regarding the effects of gated community membership on victimization risk. Earlier studies have indicated that gated communities are not significantly different from non-gated communities in terms of crime and victimization (Blakely & Snyder, 1997; Kim, 2006; Wilson-Doenges, 2000), although they have also observed that gated community residence may reduce the likelihood of victimization (Helsley & Strange, 1999) or exacerbate that risk (Kim, 2006). Given that many gated communities are popularized, either by the community or through media sources, as safer housing locations (Low,

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2003), the issue of whether these communities actually decrease residents' risk of victimization remains unclear.

In addition, past research on gated communities has not focused on variable degrees of security within gated communities and their respective effects on victimization risk. In other words, earlier studies have not addressed community gating and walling as individual components in a larger built environment, which would be expected to complement residents' overall protection from victimization (Felson, 1998). The current study seeks to contribute to the literature on gated communities by exploring the effects of security levels, but also by investigating the interactive effects of these security components with community gating. As illustrated by the CPTED model (see Cozens et al., 2005), the various elements of the community environment such as surveillance, access control, and target hardening entertain overlapping, inextricable effects with one another towards the ultimate goal of reducing crime and victimization. Following these proposed relationships, the second research question in the current study is designed to explore whether such interactive effects exist between community gating and other guardianship elements.

Dependent Variables

Three dichotomous measures of property crime victimization were selected from the NCVS data as dependent variables. The "break in" variable indicates whether a break in, either actual or attempted, occurred at the respondent's home. Similarly, "vehicle theft" measures whether the respondent's automobile was stolen or if someone stole parts from the vehicle (e.g. car radio, hubcaps, battery). Finally, "theft/fraud" inquires as to whether a respondent's personal information, such as credit cards or social security numbers, was used or attempted to be used by another individual for illicit purposes. More specifically, unauthorized individuals may use this personal information to "obtain NEW credit cards or loans, run up debts, open other accounts, or otherwise commit theft, fraud, or some other crime" (NCVS, 2009).

It is important to note that the operationalization of the theft/fraud variable is limited in that it inextricably aggregates a number of different forms of financial victimization. While measuring fraud in this way presents a limitation to the study, the coding scheme is similar to past work that has investigated individual-level risk of fraud victimization. Holtfreter and colleagues (2008) presented their subjects with a list of thirteen different types of fraud, such as retail sales fraud, investment/insurance fraud, and car/home repair fraud. Survey responses were ultimately combined into a dichotomous measure of fraud victimization in order to assess respondents' risk of being victimized. In a similar manner, the current study includes the theft/fraud variable as a general measure of modern financial risk to households.

Each of the three dependent variables received a respective score of 1 if the respondent had been victimized in such a way in the past six months or 0 if he or she had

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not. In addition to the individual victimization variables, a dichotomous measure of overall property crime victimization was created. Responses from the earlier dependent variables were combined, where experiencing at least one of the three types of victimization resulted in "property crime" being coded as 1 and experiencing none of the three received a code of 0.

While burglary (Coupe & Blake, 2006; Nee & Meenaghan, 2006; Nee & Taylor, 2000) and vehicle theft (Walsh & Taylor, 2007a; Walsh & Taylor, 2007b) encompass a more classical notion of property crime victimization, a measure of information theft and fraud was also included in the current study because it addresses a substantial financial threat to households. Personal information fraud may occur in a number of distinct forms. It may be proximal to the victim, such as the physical theft of information from mailboxes, as well as distant through telemarketing fraud (Holtfreter et al., 2008; Reiboldt & Vogel, 2003), online identity theft (Holtfreter et al., 2008; Milne, Rohm, & Bahl, 2004), and email fraud (Holt & Graves, 2007). In the case of gated communities, one might hypothesize that gates, walls, and other protective measures indicate to potential offenders that the complex contains valuable property and financial resources. As a result, the mailboxes within may become increasingly attractive targets and fraudulent schemes may be purposefully directed to these locations (Nee & Meenaghan, 2006; Reiboldt & Vogel, 2003). In addition, residents in more protected communities may feel a false sense of security(Blakely & Snyder, 1997; Romig, 2005), which may reduce the prevalence of informal social control (Sanchez et al., 2005) and lead households to use fewer online safeguards for their personal exchanges on the Internet (Milne et al., 2004).

Theoretical Variables

A dichotomous "gated community" variable was included to account for community-level protection. According to the NCVS interviewer guide, the variable specifies whether there is "a gated or walled community that restricts access by non-residents or requires entry codes, key codes, or security guard approval to access" (Bureau of Justice Statistics, personal communication, May 31, 2012). The variable was coded a 1 if the resident's community included the above security measures and 0 if these protections were absent.

In order to represent the capable guardianship component of routine activities theory, three additional measures were utilized. "Single house" is a dichotomous measure indicating the number of homes in the respondent's building. A score of 1 indicates that the respondent lives in a single family home, which entertains a degree of separation from neighboring homes. On the other hand, a score of 0 is reserved for respondents who live in buildings with multiple residents (e.g. an apartment building). In this case, neighbors are more closely oriented to one another.

Theoretically speaking, having neighbors in the same building as opposed to nearby buildings would be more likely to provide a system of proximate guardians, which may then reduce the likelihood of victimization (Nee & Taylor, 2000). Some have noted that detached buildings such as single family homes may also be at higher risk of burglary victimization because they feature more access points to potential offenders (Felson, 1998). It is important to note, though, that a higher concentration of residents may also increase the risk of victimization by introducing potential offenders to the area

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and increasing the number of potential targets (Cohen & Felson, 1979; Coupe & Blake, 2006; Cozen et al., 2005).

A continuous count of "household members" was also included in the model, indicating the number of individuals aged 12 or older who resided within the respondent's home in addition to the survey respondent. Greater numbers of individuals occupying the home and having a vested interest in the possessions associated with that home would be expected to increase the amount of guardianship against property offenses and reduce the likelihood of victimization (Coupe & Blake, 2006; Nee & Meenaghan, 2006). Although, an equally plausible consideration is that more household members result in more property that a motivated offender could target.

Finally, "restricted access" was coded dichotomously in order to account for physical security measures associated with a specific structure. More specifically, restricted access entails "a building that requires a special entry system such as entry codes, key cards, or security guard to access" (Bureau of Justice Statistics, personal communication, May 31, 2012). Greater degrees of security associated with a residential building would likely increase the amount of time required for motivated offenders to gain entry to a building as well as increase the likelihood of apprehension, which may dissuade the individual from committing a crime (Cornish & Clarke, 1979). In cases where residents' homes featured one of the aforementioned security designs, respondents received a score of 1, whereas the absence of these protections prompted a score of 0. The key differentiation between the restricted access and gated community variables is that the former focuses on protection of a specific building, whereas the latter focuses on barriers that encompass the entire community.

Demographic Variables

The present analyses included a number of control variables as well. As a note, measures for specific household demographics (i.e. race, age, married, and education) are in reference to the head of the household. Dichotomous measures for living in an urban setting, as well as being nonwhite, were included in the model. Low (2001; 2003) discussed urban and suburban segregation and how white individuals have historically been better able and more motivated to move out of urban areas and into the suburbs, in large part due to differences in class and resources (see also Luymes, 1997). This social shift is also due to a prevailing fear of urban areas, which often feature crowded structural layouts that facilitate the commission of crimes (Felson, 1998). By contrast, minorities have been less likely to transition out of urban environments and into gated communities, a finding that has been corroborated in past academic research (Romig, 2005; Sanchez et al., 2005). Consistent with earlier assessments of gated community membership, measures of urban residence and race were included in the current study in order to investigate whether these factors influence victimization risk. Individuals living in an urban area were scored 1 and those living in rural areas were marked as 0. Similarly, respondents who were nonwhite were scored 1 while those who were white received a 0.

Marriage was also included in the model and coded dichotomously, where being married at the time of the interview resulted in a score of 1 and not being married received a score of 0. Following the tenets of routine activities theory, being married is expected to produce a greater number of individuals in a household, which may then result in a greater number of potential guardians within the household (Cohen & Felson, 1979) and reduce the likelihood of victimization (Mustaine, 1997). In addition,

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individuals who are married may be more likely to exhibit protective behaviors in an attempt to avoid victimization as well as potentially defend against being victimized (May et al., 2010).

A continuous measure of age as well as ordinal measures of educational achievement and income were likewise included. Education was coded on a scale of 1 to 5, where 1 = less than high school graduate, 2 = high school graduate, 3 = some college, 4 = college graduate, and 5 = graduate or professional degree. Annual household income was coded on a scale of 1 to 4, where 1 = up to $24,999 per year, 2 = $25,000 to $49,999, 3 = $50,000 to $74,999, and 4 = $75,000 or greater. It is important to note that an individual's age, in addition to race, sex, and marital status, in considered to be one of the strongest predictors of victimization (Mustaine & Tewksbury, 1998). Particularly relevant to an assessment of communities, individuals who are older, better educated, and earning higher salaries may be able to self-select into more sophisticated communities and live in higher quality homes, which may reduce the likelihood of victimization (Blakely & Snyder, 1997; Coupe & Blake, 2006; Low, 2003).

Region was also measured dichotomously, where households residing in the South received a score of 1 and homes located in the North, West, and Midwest were scored as 0. A large body of past research has focused on the southern subculture of violence, which has been raised as an explanation for high rates of violence in the southern states (for review, see Miller, 2011). Of particular interest are reports that gun ownership and carrying are more common in the South relative to other regions of the United States (Felson, 1998; Kposowa, Breault, & Harrison, 1995) as well as a

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subcultural focus on personal honor and retaliation against insults (Nisbett & Cohen, 1996; Sloan, 1987).

Drawing on these theoretical elements of southern subculture, one may reasonably conclude that property offenders in the South would be more likely to face violent retaliation by their victims if caught in the act. It is also reasonable to expect that the potential of violent retaliation by victims may be a salient factor in the mind of the offender when considering whether to commit a crime. As such, potential offenders may be dissuaded from engaging in property crime and victimizing others if they believe that they face a strong risk of reciprocal harm. In their examination of county-level data, Kposowa and colleagues (1995) found no significant relationship between living in the South and rates property crime. The current study includes a measure of southern residence in order to investigate whether southern subculture influences property crime victimization risk at the household level rather than using macro-level data.

Table 1 shows the descriptive information for the measures included in this study. Responses indicated that 7.7% of the sample lived in gated communities and 7.6% lived in buildings with restricted access. In addition, responses on the guardianship variables were about evenly split between living in single family homes and buildings with multiple residences and featured an average of 2.04 additional household members aged 12 or older. Among the dependent variables, respondents reported low rates of victimization for all four: actual or attempted home break-ins (0.8%), vehicle theft (1.4%), having personal information stolen for theft or fraud (0.5%), and general property crime (2.6%).

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Table 1. Descriptive statistics for the sample.

Variables	M	SD	Min	Max	n	% total
Control						
Urban	0.781	0.413	0	1	101,156	99%
Nonwhite	0.374	0.484	0	1	102,104	100%
Age	49.541	17.016	12	90	77,455	76%
Married	0.400	0.490	0	1	102,104	100%
Income	2.505	1.148	1	4	53,061	52%
Education	2.810	1.179	1	5	75,360	74%
South	0.377	0.485	0	1	102,104	100%
Theoretical						
Single home	0.563	0.496	0	1	102,104	100%
Household members 12+	2.037	1.004	1	13	77,455	76%
Gated community	0.077	0.266	0	1	87,306	86%
Restricted access	0.076	0.264	0	1	87,309	86%
Victimization						
Home break-in	0.008	0.090	0	1	77,447	76%
Vehicle theft	0.014	0.118	0	1	71,522	70%
Theft/fraud	0.005	0.069	0	1	76,440	75%
Property crime	0.026	0.160	0	1	70,614	69%

Among the control variables, the sample featured a majority of urban (78.1%) and white (62.6%) participants with a mean age of 49.54. On the four-point household income scale, respondents reported modest to substantial economic means (M = 2.51) and indicated an average level of academic achievement between being a high school graduate and having some college experience (M = 2.81) on the five-point education scale. In addition, 37.7% of the sample resided in the South compared to the other regions.

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Table 2. Descriptive statistics split by gated community membership.

Variables	M (non-GC)	M (GC)	t
Control			
Urban	0.79	0.94	-29.97***
Nonwhite	0.26	0.35	-16.66***
Age	49.61	48.73	3.72***
Married	0.48	0.34	22.18***
Income	2.52	2.35	8.66***
Education	2.79	3.03	-13.97***
South	0.36	0.47	-17.88***
Theoretical			
Single home	0.69	0.27	71.54***
HH members 12+	2.06	1.72	24.58***
Restricted Access	0.04	0.52	-160.00***
Victimization			
Home break-in	0.01	0.01	1.93
Vehicle theft	0.01	0.02	-2.36*
Theft/fraud	0.00	0.01	-3.29***
Property crime	0.03	0.03	-2.16*

Descriptive analyses were also split based on whether respondents lived in a gated or non-gated community. Table 2 included the mean differences between the split data. In addition, subsequent t-tests indicated that almost all of the variables were significantly different between the two types of community settings. The property crime variables are of particular importance. While home break-ins was not significantly different between gated and non-gated communities, vehicle theft ($t = -2.36$, $p < .05$) and theft/fraud ($t = -3.29$, $p < .001$) were more prevalent within gated communities.

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Analytic Strategy

For the initial stages of analysis, correlations were computed for the variables used in the study. Logistic regressions were also run using STATA ver. 11.2 for each of the four dependent variables: actual or attempted home break-in, vehicle theft, theft of personal information for the purposes of theft or fraud, and general property crime victimization. Each logit regression utilized a household-level sample weight that is included in the NCVS 2009 data.

Furthermore, a logit regression was estimated to account for interactional effects between measures of guardianship. Felson (1998) argued that there may be multiple sources of guardianship in a community and that these elements may exhibit differential effects on the likelihood of being victimized. Moreover, Cornish and Clarke (1987) discussed how a number of properties, such as the number and accessibility of targets as well as the chance of victim confrontation, combine to influence offenders' overall decision to commit a crime. Following these arguments, it stands to reason that measures of guardianship may exhibit interactive effects with one another in determining whether an individual is victimized. For example, having additional household members may make it more difficult to successfully break into a home and having a burglar alarm may likewise increase the difficulty of committing the crime. While these measures by themselves might not successfully dissuade a potential offender, a combination of the two may sufficiently increase the time necessary to break in and elevate the risk of detection to a point where the potential offender decides not to proceed.

In addition to standard logit models, four rare events logistic regressions (relogit: Tomz, King, & Zeng, 2003) were run on the aforementioned dependent variables using STATA ver. 11.2. King and Zeng (2001) note that standard logit models may produce underestimated results when the dependent variable occurs relatively infrequently. The discrepancy is caused by a lack of statistical power, which would otherwise be corrected with a larger number of occurrences. As a result, using relogit models is appropriate with "binary dependent variables characterized by dozens to thousands of times" fewer ones than zeroes (King & Zeng, 2001, p 693). Because the NCVS data used for the present study features low rates of reported property crime victimization, relogit analyses were used in addition to standard logit models as a sensitivity analysis to increase confidence in the results.

CHAPTER FIVE:

RESULTS

Table 3 provides the correlations for each of the independent variables. All of the correlations were significant at the $p < .001$ level, which is likely a result of the large sample size used in the analyses. While many of the variables exhibited weak correlations, several others are particularly noteworthy given the strength of their relationships. Living in a gated community exhibited a weak, positive relationship with living in an urban setting (0.101) and was moderately and negatively correlated with living in a single home (-0.235). In addition, gated community residence exhibited a moderate-to-strong, positive relationship with restricted building access (0.478).

The additional guardianship measures also revealed several notable correlations. Living in a single home was positively and weakly related to income (0.272) and the number of additional household members (0.215) in addition to being moderately, positively related to marriage (0.491). The single home variable also displayed a moderate, negative relation to being nonwhite (-0.546) and weak-to-moderate, negative relationship with restricted building access (-0.303). Somewhat predictably, the number

Table 3. Correlations of variables used in the analyses.

	Non-white	Age	Married	Income	Education	South	Single home	HH members 12+	Gated community	Restricted access	Home break in	Vehicle theft	Theft/ fraud	Property Crime
Urban	0.030	-0.072	-0.041	0.040	0.103	-0.084	-0.112	-0.026	0.101	0.116	0.003	0.032	0.016	0.031
Nonwhite		-0.092	-0.401	-0.122	-0.027	0.075	-0.546	-0.010	0.056	0.073	0.016	0.018	0.007	0.022
Age			-0.040	0.410	-0.124	-0.018	0.158	-0.172	-0.013	-0.020	-0.025	-0.045	-0.025	-0.054
Married				0.414	0.084	-0.014	0.491	0.462	-0.075	-0.123	-0.029	-0.010	-0.007	-0.025
Income					0.456	-0.057	0.272	0.284	-0.038	-0.080	-0.030	-0.025	-0.001	-0.034
Education						-0.034	0.044	-0.029	0.051	0.041	-0.013	-0.014	0.003	-0.015
South							0.036	-0.032	0.060	-0.056	0.009	-0.003	-0.000	0.003
Single home								0.215	-0.235	-0.303	-0.006	-0.029	-0.013	-0.028
HH members 12+									-0.088	-0.125	0.001	0.026	0.008	0.023
Gated community										0.487	-0.007	0.009	0.012	0.008
Restricted Access											-0.009	0.010	0.008	0.006
Home break in												0.049	0.017	0.570
Vehicle theft													0.016	0.737
Theft/ fraud														0.434
Property crime														

of additional household members was moderately and positively related to marriage (0.462) and weak-to-moderately related to income (0.284). Finally, among the control variables, household income was positively and moderately related to marriage (0.414), age (0.410), and education (0.456) while marriage was negatively, moderately correlated with being nonwhite (-0.401).

The multivariate analyses in the study consisted of a series of logit and relogit regressions across the four property crime dependent variables. For organizational purposes, the results from the logit models are presented first and are then followed by the relogit models. In addition, the findings are divided into subsections for each of the particular dependent variables.

Logistic Regression

Home Break In. Table 4 lists the results of the home break in model. Among the guardianship variables, only the number of household members was significantly related to victimization. For each individual age twelve or older living in a particular household, the odds of being broken into increased by 21% ($p < .001$). In addition, the coefficient for restricted building access approached significance, where living in a building with restricted access decreased the odds of being broken into by 38% ($p < .10$). Several significant effects were observed among the control variables as well. The age of the principal household member was significantly related to experiencing an actual or attempted home break-in, where each additional year resulted in a 1% decrease in the odds of victimization ($p < .001$). Additionally, being married reduced the odds of victimization by 44% ($p < .001$) and each increase in income level lessened the odds by 23% ($p < .001$).

Vehicle Theft. Two of the theoretical variables were statistically significant in predicting the likelihood of experiencing vehicle theft. Living in a single home, rather than a multi-residence building (e.g. apartment building), significantly decreased the odds of having one's vehicle stolen by 24% ($p < .01$). Conversely, the number of people living in a household increased the likelihood of victimization, where each additional resident age twelve or older was associated with a 29% increase in the odds of vehicle theft.

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Table 4. Logistic regression results for property crime variables.[1]

	Break In N = 52,895		Vehicle Theft N= 49,110		Theft/Fraud N = 52,440		Property Crime N = 48,691	
	SE	OR	SE	OR	SE	OR	SE	OR
Urban	0.13	1.04	0.29	2.25***	0.28	1.51*	0.15	1.69***
Nonwhite	0.14	1.18	0.10	1.06	0.19	1.26	0.08	1.10
Age	0.00	0.99***	0.00	0.98***	0.00	0.98***	0.00	0.98***
Married	0.07	0.56***	0.07	0.84*	0.13	0.93	0.05	0.75***
Income	0.04	0.77***	0.04	0.88***	0.07	1.02	0.03	0.88***
Education	0.05	0.96	0.03	0.94	0.06	0.98	0.03	0.95
South	0.12	1.18	0.08	0.99	0.12	0.97	0.06	1.05
Single home	0.15	1.16	0.07	0.76**	0.13	0.88	0.06	0.85*
Household members 12+	0.06	1.21***	0.04	1.29***	0.06	1.11	0.03	1.24***
Gated community	0.22	0.96	0.16	1.00	0.36	1.69*	0.13	1.08
Restricted Access	0.16	0.62	0.16	0.95	0.22	0.84	0.12	0.87
Wald χ^2(11)	138.68***		287.99***		61.64***		347.30***	

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

The results depicted in Table 4 also indicated that urban areas feature a greater likelihood of vehicle theft. Specifically, residents in urban communities featured a 115% increase in the odds of having an automobile stolen (p < .001). Similar to the findings for home break-ins, age, marriage, and income levels were significantly related to vehicle

[1] Each of the four models was rerun as an OLS regression in order to verify that the respective VIF levels were appropriate. This was done among particular concerns that the gated community and restricted access variables may exhibit multicollinearity. Subsequent tests revealed that all variables included in the models bore acceptable VIF scores (income featured the highest VIF at 1.63).

theft. Regarding the age of the household principal, each additional year decreased the odds of being victimized by 2% (p < .001). Being married was associated with a 16% decrease in the odds of having a car stolen (p < .05) and each additional level of income was associated with a 12% decrease in the odds of victimization (p < .001). In addition, the education variable approached significance in the model, where each additional level of academic achievement decreased the odds of having a vehicle stolen by 6% (p < .10).

Theft/Fraud. Living in a gated community was shown to increase the odds of theft/fraud victimization by 69% (p < .05). Concerning the first research question proposed in this study, this finding indicated that the risk of victimization was higher for those living in a gated community compared to non-gated communities. The results for the number of household members, which approached significance, further indicated that each additional person aged twelve or older living in a home was associated with an 11% increase in the odds of having personal information used illicitly for theft or fraud (p < .10).

Only two of the control variables were significant in the model addressing use of personal information for the purposes of theft or fraud. Individuals living in an urban area showed a 51% increase in the odds of victimization (p < .05). Consistent with earlier findings, older individuals were also less likely to be victims. Each additional year of the principal household member's age was associated with a 2% decrease in the odds of experiencing theft or fraud (p < .001).

Property Crime.   The findings from the final non-interactive logit model reinforced several earlier trends for property crime victimization risk within the sample. While living in a gated community was not a significant predictor, two of the household variables were found to be statistically significant. More specifically, respondents living in a single home exhibited a 15% decrease in the odds of suffering property crime victimization ($p < .05$). The number of household members was also significant, with each additional member increasing the odds of victimization by 24% ($p < .001$).

Among the control variables, individuals living in urban areas were at higher risk of property crime victimization. Compared to individuals in nonurban residents, respondents living in urban areas featured 69% greater odds of being victims ($p < .001$). Age, marriage, and income also proved to be robust factors in the model. Each additional year of the respondent's age decreased the odds of victimization by 2% ($p < .001$). Individuals who were married showed a 25% decrease in the odds of victimization, while each additional income level decreased the odds by 12% ($p < .001$). In the general property crime model, the education variable also approached significance. Each additional level of education attained by an individual resulted in a 5% decrease in the odds of victimization.

Rare Events Logistic Regression

  Home Break In. Table 5 shows the results for the series of rare events logit regressions. The number of household members age twelve and older was found once again to increase the likelihood of a home invasion, where each additional member was associated with a 22% increase in odds ($p < .001$). Restricted access was also a significant predictor in this model. Individuals who lived in buildings featuring restricted access experienced a 41% decrease in the odds of a home break-in ($p < .05$). Similar with the earlier logit models, each year of the respondent's age was associated with a 1% decrease in the odds of experiencing a home break-in ($p < .001$). Likewise, individuals who were married featured a 46% decrease ($p < .001$) in the odds of victimization and each additional level of income contributed a 23% decrease in odds ($p < .001$).

  Vehicle Theft. Living in a single home resulted in a 22% decrease in the odds of having a vehicle stolen ($p < .01$). By contrast, each additional household member age twelve or older increased the odds by 30% ($p < .001$). The results for four of the control variables were significant in the vehicle theft model and indicated additional effects. Compared to suburban and rural areas, individuals living in an urban community displayed a 125% increase in the odds of having a vehicle stolen. In addition, age decreased the odds by 2% ($p < .001$), marriage decreased the odds by 18% ($p < .05$), and each income level decreased the odds by 13% ($p < .001$). Educational attainment only approached significance in the model, with each additional level of education decreasing the odds of victimization by 6% ($p < .10$).

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Table 5. Rare events logistic regression results for property crime variables.

	Break In N = 52,895		Vehicle Theft N = 49,110		Theft/Fraud N = 52,440		Property Crime N = 48,691	
	SE	OR	SE	OR	SE	OR	SE	OR
Urban	0.13	1.05	0.13	2.25***	0.18	1.52*	0.09	1.71***
Nonwhite	0.12	1.17	0.10	1.05	0.15	1.22	0.07	1.08
Age	0.00	0.99***	0.00	0.98***	0.00	0.98***	0.00	0.98***
Married	0.12	0.54***	0.09	0.82*	0.15	0.87	0.07	0.73***
Income	0.06	0.77***	0.04	0.87***	0.07	1.03	0.03	0.88***
Education	0.05	0.98	0.04	0.94	0.06	0.98	0.03	0.95
South	0.10	1.15	0.08	0.99	0.13	0.98	0.06	1.04
Single home	0.12	1.14	0.09	0.78**	0.15	0.90	0.07	0.87*
Household members 12+	0.05	1.22***	0.03	1.30***	0.06	1.13*	0.03	1.25***
Gated community	0.23	0.97	0.16	1.01	0.21	1.65*	0.12	1.09
Restricted Access	0.27	0.59*	0.17	0.98	0.25	0.88	0.13	0.96

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

Theft/Fraud. Similar to the theft/fraud logit model, living in a gated community increased the odds of theft/fraud victimization by 65% (p < .05) and indicated a directional effect for the first research question in the current study. The number of household members also increased the likelihood of having personal information stolen. For each additional person residing in the house, the odds of being a victim increased by 13%. Several effects from the control variables persisted as well. Individuals living in an urban setting featured 52% greater odds of having personal information stolen and used for theft or fraud (p < .05). Age was also a significant correlate, where each additional year reduced the odds of victimization by 2% (p < .001).

Property Crime. Consistent with earlier findings, living in a single home decreased the odds of general property crime victimization by 13% (p < .05) and each additional person in the household age twelve or older increased the odds by 25% (p < .001).. Living in an urban community also increased the odds of victimization by 71% (p < .001), while each year of age decreased the odds by 2% (p < .001), each level of household income decreased the odds by 12% (p < .001), and being married decreased the odds by 27% (p < .001). Education also approached significance and reduced the odds of victimization by 5% (p < .10).

Interactional Model

It is important to note that the results from both the logit and relogit models were generally similar and exhibited relatively minor differences between their coefficients. In addition, variables that were significant, as well as each variable's respective level of significance, typically remained the same between models. Despite the amount of symmetry overall, two particular differences are worth mentioning. First, restricted access became significant at the $p < .05$ level in the relogit model for break ins, whereas this variable only approached significance in the logit model. Second, the household members variable became significant at the $p < .05$ level in the relogit theft/fraud analysis, while the logit version approached significance.

The final analytical model examined the interactional effects between gated community membership and the three guardianship variables (i.e. single home, household members, and restricted access) and results are included in Table 6. In the interactional model, most of the independent effects found in the earlier logit model remained nearly identical, although there are a number of observable differences. The effect of living in a gated community became statistically significant at the $p < .01$ level for theft/fraud victimization where before it had been significant at the $p < .05$ level and became statistically significant at the $p < .05$ level for general property crime victimization. As in the earlier models, these findings indicated a direction for the first proposed research question. Moreover, the effect from living in a single home lost statistical significance when examining general property crime, whereas the number of household members gained statistical significance in addressing theft/fraud.

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Table 6. Logistic regression results for interactional measures.

	Break In N = 52,895		Vehicle Theft N = 49,110		Theft/Fraud N = 52,440		Property Crime N = 48,691	
	SE	OR	SE	OR	SE	OR	SE	OR
Urban	0.13	1.04	0.29	2.25***	0.28	1.52*	0.15	1.70***
Nonwhite	0.14	1.18	0.10	1.06	0.19	1.25	0.08	1.10
Age	0.00	0.99***	0.00	0.98***	0.00	0.98***	0.00	0.98***
Married	0.07	0.56***	0.07	0.84*	0.14	0.95	0.05	0.75***
Income	0.04	0.77***	0.04	0.88**	0.07	1.02	0.03	0.88***
Education	0.05	0.96	0.03	0.93	0.06	0.98	0.03	0.95
South	0.12	1.18	0.08	0.98	0.12	0.96	0.06	1.04
Single home	0.15	1.16	0.08	0.78*	0.15	0.93	0.07	0.88
Household members 12+	0.06	1.22***	0.05	1.30***	0.06	1.14*	0.03	1.25***
Gated Community	0.63	1.39	0.51	1.52	1.96	4.03**	0.48	1.87*
Restricted Access	0.21	0.62	0.22	0.99	0.32	0.82	0.16	0.90
Gated x Single	0.58	1.17	0.25	0.68	0.28	0.51	0.18	0.67
Gated x HH members	0.18	0.79	0.14	0.86	0.13	0.66*	0.10	0.80
Gated x Restricted Access	0.51	0.95	0.31	0.89	0.55	1.00	0.24	0.89
Wald $\chi^2(14)$	140.38***		291.38***		69.26***		355.40***	

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

Among the interactional effects that were examined, only one was found to significantly influence the likelihood of victimization: the interaction between living in a gated community and the number of household members aged 12 or higher (p < .05) when predicting the likelihood of theft/fraud victimization. More specifically, this finding indicated that additional household members increased the odds of victimization in non-gated communities, whereas more household members decreased the odds in gated communities. Pursuant to the second research question in the current study, these effects suggest that community gating can exhibit interactive effects with other guardianship elements in the community, Following the example of earlier authors (Brame, Paternoster, Mazerolle, & Piquero, 1998; Paternoster, Brame, Mazerolle, & Piquero, 1998), separate models were run according to gated and non-gated community membership in order to compare the difference between coefficients for the additional household members measure. The difference between the models was significant (Z = 2.465, p < .05), indicating that the effect of the interaction was distinguishable from zero.

For better illustration, Figure 1 displays the effect of the interaction in greater detail. For members of the sample who reported living in a gated community, there is an evident decrease in the odds of theft/fraud victimization as the size of a household increases. It is important to note, though, that victimization is initially more likely in gated communities than in non-gated communities. More specifically, having one additional household member is associated with increased odds of suffering theft or fraud in gated communities compared to non-gated communities. This discrepancy shifts with the introduction of even more household members, where the odds of victimization increase respectively for residents in non-gated communities.
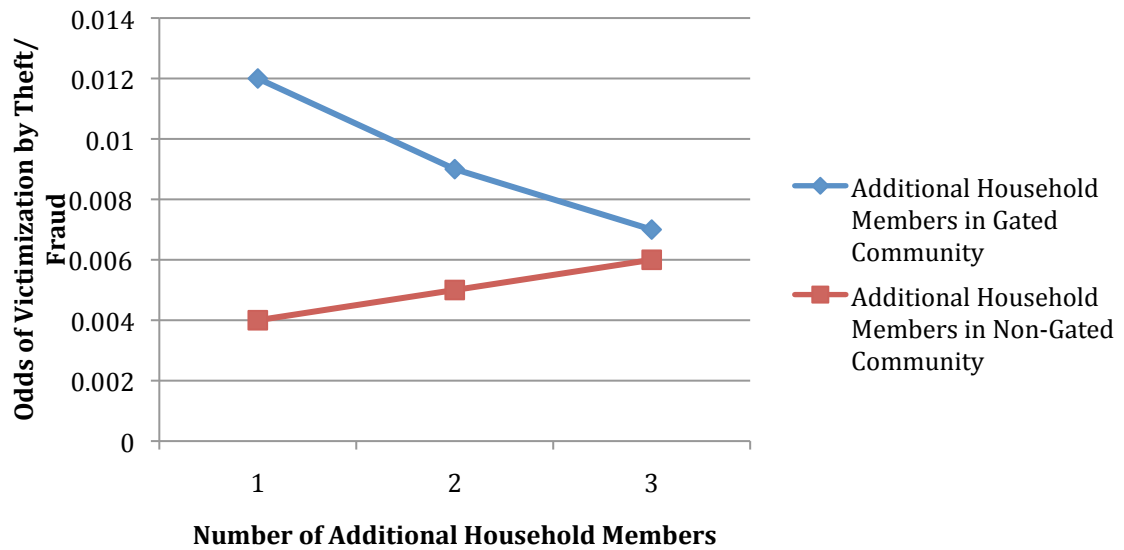
Figure 1. Interactional effect between the number of additional household members and residence in a gated community on the likelihood of theft/fraud victimization.

CHAPTER SIX:

DISCUSSION

Given the increasing number of people moving into gated communities in the United States as well as globally, it is important to address whether these communities are effective in reducing the likelihood that residents will be victimized. Building on prior research, the current study utilized a routine activities framework to investigate whether community gating and other elements of potential guardianship impact the risk of property crime victimization. More specifically, this study was driven by two research questions: first, whether community gating leads to decreased, equivalent, or increased property crime victimization risk compared to non-gated communities. Second, whether community gating exhibits an interactive effect with other forms of guardianship. Analyses suggested that community gating does not appear to decrease victimization risk based on the current data. Generally speaking, results for community gating were statistically indistinguishable from zero, indicating that there was no efficacious guardianship effect. This conclusion is tempered by the findings for theft and fraudulent use of personal information, in which respondents living in gated communities exhibited an increased likelihood of victimization. In addition, the analyses generally indicated a lack of support for interactional effects, although there was one exception to this conclusion.

Living in a gated community showed a significant effect regarding theft or fraud from use of personal information, but actually increased the likelihood of victimization rather than decreasing it. These effects were further investigated in the interactional model, which showed that gated community membership interacts with the number of additional household members in predicting theft/fraud victimization likelihood. Individuals who live in gated communities, while featuring greater odds of victimization in smaller households, entertain lower risk of victimization as household size increases. Conversely, households in non-gated communities exhibit an increased likelihood of being victimized as the number of occupants increases.

Before interpreting these effects, it is worthwhile to preface the discussion by reiterating the operationalization and limitations of the theft/fraud variable. As described earlier, the theft/fraud variable is an aggregation of possible financial victimization. Subjects are not asked about their experiences with specific types of theft and fraud victimization, but rather provide a yes or no response to a comprehensive measure. Given the general nature of the theft/fraud measure, it is impossible to determine which of the constituent forms of victimization bore the strongest influence on the results in this study (e.g. Internet virus, wireless signal hijacking, telephone fraud). Ultimately, the interpretation of the theft/fraud findings is restricted to a general assessment of financial victimization and provides a limitation that future research should address via disaggregation.

Given the aforementioned limitation, past research may help to elucidate and explain these interactive effects. For example, smaller households in gated communities may exhibit higher likelihoods of theft/fraud victimization as a product of the

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community's ambience. Romig (2005) observed that gated communities often popularize a false sense of security among residents. This belief is in part due to the physical, monolithic presence of the gate, which is expected to protect residents and their belongings. In addition, the gated community often promotes a sense of exclusion from the outside, where the internal workings of the community are relatively unaltered by outside forces. As a result, residents in gated communities may incorrectly assume that their homes are safe and subsequently become lackadaisical about protecting their personal information physically as well as digitally. As Milne and colleagues (2004) note, concerns about the privacy of one's personal information is a key predictor for online protective behaviors. Those who exhibit lax concerns may fail to take proper precautions online (e.g. utilizing a firewall, restricting Internet cookies) and put themselves at greater risk for having their personal information exploited. The opposite may also be true for members of non-gated communities, where the lack of a protective gate may signal to residents that they are responsible for keeping their personal information safe.

In order to explain the change in the odds of victimization as household size increases, it may be useful to consider the split sample demographics found in Table 2. Of particular interest is the finding that heads of the households in gated communities tend to have higher educational attainment than those in non-gated communities. Household members in gated communities may be more aware of pertinent online security methods because they are better educated (Milne et al., 2004), even if they might be less likely to utilize them as illustrated above. As household size grows, though, these individuals may become more likely to take online precautions as a means of protecting

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the entire household from potential exploitation. In other words, there may be a collective effort to keep each other protected from malicious third-party computer programs, either out of a sense of camaraderie, a better mutual understanding of risks over the Internet, or because one person's infection could threaten the security of the entire household's personal information.

Pursuant to the tenets of routine activities theory, Holtfreter and colleagues (2008) concluded that greater use of remote purchasing over the phone or via computer increased consumers' exposure to fraudulent schemes as well as the subsequent risk of fraud victimization. As illustrated above, residents in gated community households may be able to mitigate the increased risk of victimization by implementing certain securities effectively. For members of non-gated communities, who are less educated by comparison, additional household members may lead to greater quantities of Internet transactions and exchanges of personal information but less understanding of how to safeguard these processes, which would expose them to higher risk of interception. In other words, even if these individuals became more interested in protecting the household, they may not be aware of the best means to do so.

Another exception to the general findings on gated communities likewise stems from the interactional model (Table 6), where living in a gated community significantly increased the likelihood of general property crime victimization. The interaction term for household members and gated communities approached significance, which may indicate a similar trend as that found in the theft/fraud model. In other words, gated community membership may moderate the effect of additional household members on general property crime victimization risk as well, although this relationship was not statistically

significant. The interaction term notwithstanding, it appears that living in a gated community is associated with a higher risk of overall property crime victimization than in non-gated communities.

The overall findings for gated community membership and other forms of community protection offer responses to the first and second research questions proposed earlier. In the case of the first research question, living in a gated community generally appears to have no statistically significant influence on the likelihood of victimization, although in certain cases the presence of a gate may either increase or decrease these odds. Regarding the second research question, security levels generally do not exhibit interactive effects within the sample. As indicated above, an exception to this conclusion was the interaction between the number of household members and whether the community was gated when predicting the likelihood of theft/fraud.

The results surrounding gated communities appear to be in general agreement with the findings from past research. Victimization likelihood does not tend to vary between gated- and non-gated communities (Blakely & Snyder, 1997; Wilson-Doenges, 2000), but rather fluctuates more generally by area or region. Blakely and Snyder (1998) also note that gated communities may actually increase the rate of offending in the area by negatively affecting the routine activities therein. Overall, the sum of these findings suggests that gates and walls may not always establish actual, *capable* guardianship. Instead of being impenetrable barriers that keep non-members out, these defenses may actually be semi-permeable and only create the illusion of security. Past CPTED research is split on the issue of permeability. While easier access to communities may promote traffic and surveillance by residents who could serve as potential guardians, porous

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defenses may also allow motivated offenders to access the community more freely (Cozen et al., 2005). Following this explanation, community protection is highly relative and depends on the unique characteristics of a particular community. While such a level of detail is beyond the scope of the current study, this interpretation is in line with other theoretical explanations of the physical makeup of communities and subsequent effects on victimization likelihood (Felson, 1998; Hope, 1995; Schweitzer et al., 1999; Tewksbury & Mustaine, 2000).

In addition to the findings concerning gated communities, the routine activities measures included in the models revealed several significant guardianship effects, although the effects of these variables often appeared initially to run in a direction opposite of Cohen and Felson's (1979) predictions. The results indicated that living in a single-family home reduced the likelihood of having a vehicle stolen, which is contrary to what one may logically assume. It would make sense to conclude that having more neighbors in greater proximity would deter vehicle theft because of greater pedestrian and vehicle traffic as well as supervision from neighbors. A plausible counterargument concerns the structure of the two types of residential buildings measured in the study. Single-family homes are likely to have garages that may offer better protection than multiple-dwelling buildings, which are less likely to have a private garage for each resident's vehicle. Additionally, the close proximity of vehicles near multiple-occupancy residence buildings may increase criminal opportunities for would-be offenders. A final consideration is that neighbors may be less likely to care about the welfare of one another in more congested living areas. In other words, these areas may lack collective efficacy

(Sampson et al., 1997) that might otherwise increase the level of guardianship in a community.

The number of household members also presented an interesting set of findings about victimization likelihood that are opposite of what one might logically expect. According to the routine activities approach, a greater number of individuals in a household should further insulate it from criminal victimization because of overlapping supervision. Instead, the results suggested that having greater numbers of people in a household actually increases the likelihood of being victimized. Despite apparently failing the guardianship litmus test, community context may again provide an explanation for this finding. On average, approximately two additional individuals age twelve or older were present in a household. Despite having multiple people living in a particular home, these combined residents may not provide *capable* guardianship. For example, if these residents are invested in occupations (e.g. work, school), they may not be available to protect the household at all times (Mustaine & Tewksbury, 1998). This explanation is consistent with previous findings regarding guardianship and social context. Coupe and Blake (2006) observed that burglary is more likely during weekdays when household members are expected to be away rather than weekday nights and weekends where they are more likely to be home. Absence from the home may be exacerbated in more economically depressed areas, where adult household members may need to entertain more than one job or teenage residents may be employed in addition to going to school.

An alternative possibility is that additional household members do provide a degree of guardianship, but also supply a greater quantity of valuable property. More property in the home, additional vehicles, and a greater flow of incoming mail or personal

information would all increase the availability of suitable targets for an offender to lock onto, which would increase the number of victimization opportunities. Following this logic, potential offenders may engage in a cost-benefit analysis of crime commission and ultimately be motivated by the pursuit of sustenance (Cohen & Felson, 1979; Felson & Cohen, 1980) despite the presence of guardians (Cornish & Clarke, 1987), which again may be a more pronounced need in urban and impoverished settings. Finally, offenders may actively select residences with more residents regardless of potential risk, such as older burglars (Coupe & Blake, 2006).

The results also indicated that a number of individual-level factors exhibit relatively consistent effects across various forms of property offenses. Respondents' age proved to be a robust correlate across all three models, which may indicate that older individuals, particularly retirees, spend more time at home and offer a greater degree of guardianship over their possessions (Coupe & Blake, 2006). Similarly, marriage and household income were significant in predicting the likelihood of actual or attempted home break-ins and vehicle theft. One plausible explanation for these findings is that individuals who are older, married, and receive greater income have more discretionary financial resources, which may then be used to augment internal home security (e.g. household alarm systems) rather than externally with gates and walls. In addition, individuals with a stronger financial backing may elect to live in nicer communities that are more distant from areas with higher rates of offending (Austin et al., 2002). As Blakely and Snyder (1998) remarked, "crime is a far greater problem for lower-income people than for the better off" (p. 56).

The development of this research featured a number of limitations that deserve mentioning. While the NCVS provides measures for a number of demographic and theoretical variables that are related to the topic of gated communities, these indicators are limited in their scope. More detailed and comprehensive measures of community security would likely augment the validity of the present findings on victimization likelihood. The NCVS data was not designed to address the *quality* of protection, but rather creates an aggregation of factors. For example, while the interviews addressed whether respondents lived in gated communities, these measures are very basic. In reality, the protective qualities of community gating exist in degrees rather than simply being present or not (Grant & Mittelsteadt, 2004). For instance, community walls may completely encompass the compound or may only stand at the front of the complex (Yip, 2012). Non-residents may also employ strategies to bypass community security measures, such as following behind resident cars that open entrance gates or even obtaining gate codes from residents (Blakely & Snyder, 1997; Low, 2001). Issues such as these indicate that some communities may simply be lulling residents into a false sense of security (Romig, 2005).

The data also failed to account for the characteristics of neighboring communities, which would be expected to influence the risk of victimization within a particular residential area. For example, Suresh and Tewksbury (2012) plotted motor vehicle theft on a map and were able to identify how community characteristics (e.g. household income, home value, percent poverty) predicted the number of stolen and recovered motor vehicles. In a similar way, the current study would have benefitted from understanding the other communities surrounding any particular household in the sample.

For instance, residents living in a gated community that is proximal to other, wealthier gated communities may feature especially low likelihoods of victimization. Conversely, residents living in an affluent gated community that is encompassed by low income, socially disorganized housing may feature much higher victimization risks by comparison.

The ability to investigate alternative forms of security within the community was similarly curtailed by the limited data on restricted building access. More sophisticated assessment of private security personnel, such as patrolling, line of sight, and hours of operation (Felson, 1998), as well as the quality of keycard or electronic access to buildings, may have influenced the findings in this study. Moreover, the NCVS data did not include whether local police maintained patrol routes in or around the community (Blakely & Snyder, 1998; Felson, 1998), which may increase the level of capable guardianship.

Internal security may also play a role in understanding victimization rates, although these elements were not addressed in the NCVS interviews. Home security measures, such as alarms and extra locks, are becoming increasingly popular in private residences (Dupuis & Thorns, 2008; Mustaine & Tewksbury, 1998) and may reduce the risk of being victimized (Nee & Taylor, 2000). Nee and Meenaghan (2006) mention that approximately one half of their sample (21 participants) of self-reporting burglars admit noticing a significant improvement in home security within the last decade, although eight individuals also report that higher levels of security actually make potential targets more attractive. In addition, vehicle security has improved in recent decades (e.g. keyless

entry, LOJAC devices), which may lead to greater target hardening (Walsh & Taylor, 2007b).

Several limitations exist for the dependent variables used in this study as well. First, victimization rates for the three property offenses addressed in this study were minimal, a problem that has been identified in other analyses of gated communities (Reiboldt & Vogel, 2003). This limitation is tempered, though, by the nearly identical findings from the logit and relogit analyses, which were used to compensate for the low prevalence of victimization.

A much larger concern is that the data are not clear on exactly where some of the offenses occurred. More specifically, while home break in will always occur at one's place of residence, a vehicle may be stolen while outside of the community. In this way, community gating would have no protective effect because it would cease to be a proximal guardian. Likewise, credit card and social security information may be stolen while outside of the home, which would again bypass any existing security measures. This limitation for the theft/fraud analyses is further exacerbated by the operationalization of the variable in the NCVS data. Given that theft/fraud encompassed a variety of financial offenses, it is impossible to disaggregate the measure for the purposes of this study.

A final concern lies with the lack of measures for community solidarity, which would help to better characterize the communities that respondents live in (Gibson et al., 2002; Rountree, 1998; Scarborough et al., 2010) as well as provide insight into the level of collective efficacy among neighbors (Sampson et al., 1997). Community relations on

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a micro-level as well as the macro-level certainly contribute to the routine activities of residents, and the absence of this data limits our understanding of community context.

In spite of the above limitations, the NCVS data possessed a number of strengths in developing this study. First, the data were compiled from a vast sample across the United States, which included a large number of respondents and augmented the overall richness of the data. Earlier studies on gated and non-gated communities focused on limited numbers of communities for their analyses and in some cases suffered from low response rates (Wilson-Doenges, 2000). Conversely, a national sample draws from a much more diverse array of communities with their own unique designs and dynamics. Second, the NCVS data includes measures of community security that are absent from other official data sources (e.g. UCR, NIBRS). While these measures lack a degree of specificity, they provide a valuable foundation for an exploratory assessment of guardianship in gated and non-gated communities that may later be expanded upon.

Future research should incorporate more detailed measures of victimization and include a more comprehensive variety of offenses than those tested in this study. For example, violent crimes such as robbery or assault may also exhibit differential prevalence depending on whether the community is gated. Measures of property crime beyond the three utilized in this study might also be advantageous to study, such as vandalism (Tewksbury & Mustaine, 2000). Researchers should apply a greater focus on the characteristics of the community as well. For one, measures of security and the number of protective elements should be explored with greater detail in order to better assess their effects on resident victimization. Additionally, inter-resident relations and community organization should be addressed in order to better understand how

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residential solidarity and informal social control interact with community gating to influence victimization risks (Cozens et al., 2005).

Based on the findings in this study, a number of policy implications are advisable. For one, future iterations of the NCVS may benefit from a stronger focus on community- and household-level security. In addition to collecting information on external features, interviewers could inquire about internal protections such as alarms, extra locks, or other steps that residents take in an attempt to decrease their likelihood of victimization. Moreover, existing measures such as living in a gated community and featuring restricted building access might benefit from disaggregation so that the individual components in these variables could be assessed.

The results from this study also suggest that residents should be cautious when evaluating the ability of a community gate to keep them safe from victimization. The above findings indicate that gates are not panaceas to potential victimization, but rather constitute a single element in a much larger security paradigm. As a result, community residents should not be lulled into a sense of false security by the symbolic value of a gate and should be encouraged instead to take certain steps toward protecting themselves from victimization (Holtfreter et al., 2008; Milne et al., 2004). This is not to say, though, that residents should become excessively anxious about victimization. As illustrated above, fear of crime exists at pandemic levels across the world and hardly needs to be propagated further. Instead, a balance should be pursued whereby individuals might more reasonably appreciate the risks posed against them and take calculated steps to mitigate those risks.

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