Decisions to exert social control in a neighborhood context: social dilemmas and solutions

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DECISIONS TO EXERT SOCIAL CONTROL
IN A NEIGHBORHOOD CONTEXT:
SOCIAL DILEMMAS AND SOLUTIONS

by

Shaohua Yu

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Decisions to Exert Social Control in a Neighborhood Context:

Social Dilemmas and Solutions

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Shaohua Yu

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ABSTRACT

Prior literature on urban crime study has long indicated that residents’ participation in informal social control activities is crucial in achieving low crime rates in urban neighborhoods. The question of what factors determine individual residents’ decisions on whether or not to support collective crime prevention efforts, however, has yet to be addressed. The present study approaches this issue by bridging it with another important area of research—the study of social dilemmas—that explain cooperative tendencies in human groups. By defining informal social control as a form of collectively desirable action, the study tested the hypothesis that the solutions to social dilemmas developed by game theorists for achieving cooperation would also foster residents’ tendency for promoting neighborhood order and enhance their support for the exercise of informal social control. The examination of multilevel data found that most of the hypothesized factors (e.g., normative beliefs, residential stability, perceived risk, interpersonal interaction, affiliation, attribution and expectation) directly or indirectly facilitate residents’ approval of the participation in social control behavior. Therefore, the study validates the application of social dilemma perspective to the study of informal social control in neighborhood context.
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CHAPTER 1: INTRODUCTION

Residents in a neighborhood are sometimes willing to communicate their disapproval, directly or indirectly, to persons who perpetrate deviant acts. This collectively desirable reaction is known as “informal social control,” the purpose of which is to enforce conformity and maintain public order in the neighborhood. Criminologists who study spatial distribution of crime under social disorganization tradition have generally agreed that residents’ willingness to take such prosocial action (i.e. informal social control) is a key mechanism for achieving low crime rates in local areas (Elliott et al., 1996; Sampson & Groves, 1989; Sampson, Morenoff, & Gannon-Rowley, 2002; Sampson, Raudenbush, & Earls, 1997). Thus, discovering the determinants of residents’ willingness to exert social control is a crucial next step in understanding the social mechanism that restrains crime in residential communities.

The recognition of the essential role of informal social control in inhibiting crime and other forms of deviant behavior has led to a number of studies aimed at finding the determinants of residents’ willingness to exert social control; however, these studies lack both a synthesized theoretical basis and an investigation of individual residents’ willingness to exert social control.

In terms of the theoretical basis, most of the previous studies on neighborhood informal social control have drawn on three interrelated theoretical perspectives. First is the systemic model of social disorganization theory, which suggests that a neighborhood’s ability to control local conditions lies in an intrinsic friendship and
kinship networks (Kasarda & Janowitz, 1974). The social capital derived from dense social ties is the key to local residents’ realizing their common goals and ensuring the social controls that foster safety (Bursik, 1999). The second perspective that has directed the study of neighborhood informal social control to date is collective efficacy theory, introduced by Robert J. Sampson in late 1990s. According to this theory, social ties may facilitate, but are not necessarily required for the exercise of social control. Instead, it is the linkage between mutual trust and the shared expectation of control within a neighborhood that encourages residents to act collectively toward common goals (Sampson, 2006; Sampson et al., 1997). The impact of crime theory is the third theoretical perspective adopted in most of the studies of neighborhood informal social control. It is commonly believed that crime is not only consequence of the variable strength of informal social control, but also influences people’s responding behavior. Because of fear, crime or signs of crime constrain residents’ willingness to become involved in crime prevention efforts (e.g., Bellair, 2000; Liska & Warner, 1991; Skogan, 1986).

In addition to those three major theories stated above, some prior research on neighborhood informal social control also embraces elements of other areas of study, such as helping behavior and emergency intervention (Hackler, Ho, & Urquhart-Ross, 1974), culture and legal cynicism (Sampson & Jeglum-Bartusch, 1998; Silver & Miller, 2006; Warner, 2003), and policing (Silver & Miller, 2006; Warner, 2007). No attempt has been made to incorporate all the elements from the various sources into a synthesized
theoretical framework. The lack of theoretical synthesis in explaining informal social control may result from the ambiguous portrayal of the nature of informal social control. In this dissertation, I clearly view informal social control as residents’ behavioral choice about promoting public order, thereby identifying it as a form of prosocial action. In doing so, the research question of neighborhood informal social control becomes that of when and why residents act prosocially to intervene in activities against crime and deviance.

Game theory, through its explanation of social dilemmas, encompasses the mechanisms driving behavioral choices in situations in which tension exists between individual and collective rationality, therefore, providing a theoretical approach that helps explain the underlying mechanisms accounting for the variation in residents’ willingness to exert social control.

In addition to the lack of theoretical synthesis, the other drawback of the prior research is that it has comprised only neighborhood-level studies, and the outcome variable in those studies has reflected not individual actors’ own willingness to intervene, but the expectation on whether other people will intervene when crime occurs\(^1\). The question of how individual residents make their own decisions to participate in crime-combating efforts has yet to be addressed. The significance of the question

\[^1\text{All previous researchers on neighborhood crime have considered informal social control as a group-level phenomenon; therefore, researchers used residents’ perceived likelihood of their neighbor intervening in activities against deviant behavior to reflect the objective level of informal social control (Sampson et al., 1997; Silver & Miller, 2004; Warner, 2003).}\]
should not be overlooked, because the answers to it are essential in solving problems emerging in the course of neighborhood mobilization. In the twenty-first century, the idea of neighborhood has become very critical in everyday criminal justice practice. Increasing numbers of community-based crime prevention programs have emerged, such as community corrections and community policing, which have presented challenges because they require citizens’ participation. Police officers are often left wondering why citizens do not participate and what they can do to mobilize local residents, increasing their desire to contribute to crime prevention (Jamieson, 2008).

Before providing a solution, knowing what underlies citizens’ decisions about whether or not to take part in collective efforts to achieve public safety is necessary. By measuring individuals’ attitudes toward serving as part of an informal social control action\(^2\) instead of their expectations regarding others’ behavior, I offer a tentative exploration in this direction. This dissertation illuminates the social barriers that dissuade individuals from contributing to the maintenance of public order and provides solutions.

According to the conceptual framework briefly presented above, the body of my dissertation opens in Chapter 2 with a discussion of the definition and nature of informal social control in the neighborhood context, clarifying residents’ exercise of social control as a form of prosocial behavior. Chapter 3 provides the theoretical basis for the current

\(^2\) Because of the limitation of data, no direct measure of willingness to intervene was available. The justification of using attitudes toward an act as the measure of the overt behavior appears in the Chapter 5.
study. General theories on prosocial behavior (or collective action) are initially introduced with the emphasis on the study of social dilemmas as an explanation for the failure of collective action followed by solutions to social dilemmas. Chapter 4 expands the implications of the study of social dilemmas for the study of informal social control and proposes the hypotheses in the current research context. The last two chapters pertain to the empirical test of the hypothesized causal mechanism, beginning with a review of the survey entitled “Informal Social Control of Crime in High Drug Use Neighborhood in Louisville and Lexington, Kentucky, 2000,” followed by the statistical methodology and finally a discussion of the results.
CHAPTER 2: INFORMAL SOCIAL CONTROL

Since the inception of social disorganization theory by Shaw and McKay (1942), the investigation of informal social control has occupied a central position in neighborhood crime study; however, a consensus of what social control means has not emerged in the field until recently. A clear definition of the concept is a prerequisite before we explore any proper theory for explaining informal social control in neighborhood context; therefore, a brief review of the evolution of the definition of social control in sociological research follows.

From the Broad To the Narrow Conception

In its fundamental sense, social control was defined as “the capacity of a society to regulate itself according to desired principles and values” (Janowitz, 1975, p. 82); it refers to all human activities and arrangements that contribute to social order, particularly, those that motivate people to conform (Black, 1984; Clark & Gibbs, 1965). This conception, which accompanied the emergence of sociology as a discipline, was formulated so broadly that it was able to account for the entire phenomenon of social organization.

The excessively broad definitions of social control created many problems in sociological study. First, Clark and Gibbs (1965) pointed out that the broad definition of social control was too inclusive and it failed to clarify a distinctive subject matter of study. Indeed, several notions were intertwined with one another under this conception. For example, the impossibility of distinguishing social control from social order (Meier, 1982)
was problematic because social order should be explained by the processes of social control. Nor could one distinguish social control from social norms. On one hand, the creation and preservation of norms could be viewed as one form of social control; on the other hand, many suggested that the clarity of norms is a precondition that ensures the practice of social control. Vague norms or norms not commonly accepted undermine the capability of the society to regulate itself, which, in turn, disrupts social order (Kornhauser, 1978; Warner, 2003). Accordingly, the broad conception not only obscured some critical notions in sociology but also confounded the causal order of several key mechanisms.

The other problem associated with excessively broad definitions is that they made the measurement of social control an impossible task because everything inducing conformity had to be taken into account, especially when several critical notions in the definition were vague at the same time. Moreover, the validity and reliability of the measurement were also called into question.

Later, theorists reformulated the concept of social control, offering a narrower definition. The narrowed definition linked social control to deviance by referring to people’s response to deviance. “In this sense, social control is present whenever and wherever people express grievances against their fellows” (Black, 1984, p. 5). It counteracts the negative effects deviance brings to the social system and enforces conformity (Black, 1984; Homans, 1950). With the narrowed definition, theorists made several important distinctions.
First, they distinguished between internal control and external control. Internal control is the internalization of social norms through processes such as education. People conform to norms because they believe in them, and the process is usually identified as socialization. By contrast, external control is identical to social control in its narrow sense, referring to “a social process whereby people conform to social norms or rules because they are rewarded with status, prestige, money, and freedom when they do adhere to them and are punished with the loss of them when they do not” (Liska, 1997, p. 40). In this sense, social control is coerced or enforced (Liska, 1997), primarily through the process of punishment.

Second, theorists distinguished between formal and informal social control. In fact, when delimiting the concept of social control, one group of theorists narrowly defined it as a means intentionally employed by formal authorities to ensure conformity to formal norms (Hollingshead, 1941). Clark and Gibbs (1965) rejected this definition, arguing that such a conception ignored a variety of ways by which social control could be exerted by units other than formal authority. Actually, the negative reactions to norm-violating behaviors come from both formal and informal avenues as well as legal and nonlegal avenues. Norm violators run the risk of receiving negative response from others (Chekroun & Brauer, 2002). The negative response does not have to be formal sanction; neither does it have to be always punitive. It can be any type of intervention that induces norm violators to conform. Those who violate the norms might merely receive an angry look, a negative comment (Chekroun & Brauer, 2002), or rejection from...
other group members (Janis, 1982). The distinction between formal and informal social control is determined by the entity that imposes the intervention. Formal social control is carried out by the state, primarily through all forms of criminal justice practices; informal social control, imposed by parties other than the state, is rooted in individuals and, in the neighborhood context, relies heavily on their participation in collective activities that promote common interests.

**Informal Social Control in Neighborhood Crime Studies**

The narrow conception allows for a specific subject matter for the study of social control, especially for the empirical study of social problems in the neighborhood context. According to the narrow school of thought, in which social control is viewed as a response to deviance, informal social control—the key element in urban crime study—can be conceptualized as the willingness of residents to participate in activities aimed at preventing deviant behavior and achieving public order in local areas (Silver & Miller, 2004). According to many neighborhood crime studies derived from the social disorganization tradition, it is this informal mechanism, not the formal forces (e.g., police crackdown), that explains the variation in crime rates across urban areas.

In the discipline of sociology in general, the definition and the subject matter of social control remains under debate, but most criminologists who study urban crime have adopted the narrow definition of social control and measure it in accordance with the definition. Sampson et al. (1997), for example, viewed informal social control as the residents’ willingness to intervene for the common good. Their view of neighborhood
social control focused on the informal mechanisms by which residents themselves can effectively achieve public order. Effective control in local communities involves activities that require residents’ participation. According to Sampson et al. (1997), examples of intervention activities include supervision of spontaneous playing groups, intervention preventing juvenile delinquency, and confrontation of people who disturb public order, among others. Moreover, the capability of local residents to import resources from larger social units is also considered a form of informal social control. Overall, definition of informal social control by Sampson et al. emphasizes the residents’ capacity to achieve collective goals (e.g., public safety) by intervening in activities against disorder, delinquency, and crime.

The working definition of informal social control offered by Sampson et al. (1997) has been commonly accepted by researchers in the field of neighborhood crime research. Two recent studies in which informal social control served as the outcome variable, for example, were based on the narrow definition of the term. The first one was conducted by Warner (2003), who investigated how the attenuation of culture may inhibit informal social control; here informal social control was narrowly defined as residents’ willingness to intervene. The survey items used to measure the term were almost identical to those adopted by Sampson et al. (1997) in their research of collective efficacy.3

The other study that aimed at assessing the variation in the strength of informal

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3 Because of limited data, Warner (2003) did not include the item that reflects the capacity of residents to import outside resources.
social control was proposed by Silver and Miller (2004), who echoed Sampson’s (1987) argument that “a community-oriented approach to informal social control rests on the assumption that the only truly effective means of maintaining public norms is by neighbors’ assuming responsibility for one another” (p. 104). According to Sampson (1987) as well as Silver and Miller (2004), the extent to which residents are willing to take the responsibility for promoting the common interests of their neighborhood is what neighborhood informal social control is about. Moreover, Silver and Miller (2004) clearly conceptualized informal social control as “the willingness of local residents to actively engage in behaviors aimed at preventing criminal and deviant behavior in the local areas” (p. 553).

**The Nature of Informal Social Control**

In accordance with the tradition in urban crime study, informal social control in the current research context is also conceptualized as the willingness of residents to intervene in activities aimed at achieving public order. As indicated by the definition, informal social control, exercised in various intervention activities, reflects individual residents’ behavioral tendencies to engage in prosocial or collectively desirable activities.

Intervention activity takes many forms, varying from supervising teenagers to engaging in neighborhood watch, from preventing disturbing behavior to stopping violent crime, from directly confronting perpetrators to mobilizing the authority to deal with them. Whatever form it takes, its purpose is to enforce conformity, to maintain public order, and to achieve a social environment free of crime, especially violent crime in the
neighborhood. By exerting social control individual residents contribute to the production of a public good. At the same time, the action might cost individual actors time and energy and in some extreme cases put their lives in danger. In this sense, informal social control behavior, by its very nature, is not different from a wide range of prosocial or collective acts, including helping strangers, emergency intervention, volunteering, and donation, wherein some significant segment of society or one’s social group benefits from individual actors’ contributions (Penner, Dovidio, Piliavin, & Schroeder, 2005).

The first widely-recognized neighborhood crime study that related informal social control behavior to the broader range of prosocial behavior, conducted by Hackler et al. (1974), was a small-group laboratory study of willingness to intervene in 12 areas in the city of Edmonton, Alberta. In the study, the researchers drew on traditional theories in psychology designed to explain helping behavior. Based on the theories, they summarized a set of neighborhood characteristics thought to foster the conditions under which people will intervene to help someone else.

More recently, Sampson (2006) borrowed an idea from Olson’s (1965) collective action theory to develop the concept of neighborhood collective efficacy. He pointed out that the maintenance of safe, clean, ordered environments is a widely desired social good; however, to act collectively for achieving the good is very difficult because of some social constraints. Only when residents trust one another and expect support from other group members can they manage to overcome those constraints and act on behalf of
the common interest.

Although both studies discussed above established the link between the study of neighborhood informal social control and the study of more general prosocial (or collective) behavior, they remain at a rudimentary level. Accordingly, in my dissertation I attempted to take one step further in exploring how theories or a particular theory of prosocial behavior can better direct the study of informal social control in the neighborhood context.
CHAPTER 3: THEORETICAL FRAMEWORK

General Theories on Prosocial Behavior

Prosocial behavior, which has been intensively studied in several disciplines, involves a diverse range of phenomena. According to Penner et al. (2005), this substantial body of research can be categorized according to three dimensions or levels of analysis: micro, meso, and macro.

Micro-Level Research

Those who study at the micro level are interested in explaining the emergence of prosocial tendencies and variations of these tendencies in individuals (Penner et al., 2005). Answers to micro-level research questions about prosocial behavior have involved evolutionary theory, biological and genetic perspectives, developmental approaches, and personality factors. This perspective is irrelevant to the current study because it looks back to the beginning of the development of human society and the first stage of the formulation of personality, whereas my concern in this paper is on people’s willingness to exert social control under a given social context.

Some implications from micro-level analysis might, however, relate to an understanding of informal social control behavior in the neighborhood context; for example, according to the sociobiological perspective, altruistic behavior is ultimately selfish because the true motivation of the actor is to pass on a genetic formula for one’s own group (Barret, Dunbar, & Lycett, 2002), which explains why we are more willing to help those who are genetically or socially close to us (Adeyeva, Burgetova, & Welch,
In line with this argument, the close relationship of an individual to a community is expected to produce more prosocial behaviors (Adeyeva et al., 2006).

The other perspective in micro-level analysis that has implications for the general understanding of prosocial behavior is known as reciprocal altruism; its name implies that altruism in human groups emerges and persists under the expectation of reciprocal benefits (Trivers, 1971). By helping others, individuals gain evolutionary advantages in repaid favors (Trivers, 1971) as well as increased status and reputation among members of their community (Wedekind & Braithwaite, 2002); therefore, the stability of group membership is expected to enhance helping among group members.

**Meso-Level Research**

Meso-level study focuses on examining helping behaviors under certain conditions, presenting questions such as when and why people help. Two theoretical models have been widely applied to the meso-level analysis of helping.

One is Latane and Darley’s (1970) bystander effect, which makes sense of the phenomenon known as unresponsive bystanders. Essential to the perspective is the process called diffusion of responsibility, which refers to the shared costs associated with intervention and with nonintervention (Chekroun & Brauer, 2002). When many bystanders are present, people wait for others to take action, and the cost of nonintervention for each person is reduced; hence, the responsibility of helping is diffused among a group of people.

The other model that explains the variation in helping behavior is the cost–reward
model (Piliavin, Dovidio, Gaertner, & Clark, 1981), which follows the traditional view of human nature in psychology, suggesting that people are relatively rational and their behavior is motivated by self-interest. Therefore, the decision to render help is determined by cost–reward calculation. An observer is most likely to offer help when the personal costs of helping are perceived to be low and the expected costs of not helping are relatively high (Fritzsche, Finkelstein, & Penner, 2000).

Guided by the bystander effect model and cost–reward model, empirical researchers have demonstrated that the probability of bystander intervention is associated with the degree of distress displayed by the victim, the gender and the age of the helper, the possibility of escape, the cost of not helping, the environmental stress, the number of bystanders, personal implication, and so forth (see Penner et al., 2005; Chekroun & Brauer, 2002).

Studies examining helping behavior are somewhat relevant to the context of the current research, but the implications are limited. Informal social control in a neighborhood sometimes involves direct intervention in criminal incidents where some forms of assistance to the victim are required. Meso-level studies of helping answer the question of when and why residents who observe a specific incident are willing to offer help. Meanwhile, those studies rely heavily on situational factors surrounding every

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4 Because an assumption of a rational and self-interested individual underlies this model, the cause of altruistic behavior requires explanation. The motivation for helping, according to Piliavin et al. (1981), is the reduction of the physiological discomfort caused by observing another person’s distress; thus it is ultimately selfish in nature.
single incident as determinants of the behavioral outcome of helping, such as the number of observers involved (Latane & Darley, 1970), the discomfort level resulting from not helping (Piliavin et al., 1981), and whether the incident is emergent or not (Chekroun & Brauer, 2002); they ignore individuals in a relatively stable social group. The social context for the study of informal social control in my dissertation, by contrast, is the neighborhood, which exhibits contextual effects that are fairly steady over time. The characteristics of each incident at a certain point in time are of no interest in this investigation. The prosocial behavior literature most relevant to my current study deals with research conducted at the macro level.

**Macro-Level Research**

Macro-level analysis of prosocial behavior aims at studying collective action occurring within the context of groups and large organizations (Penner et al., 2005). Some theorists have defined macro-level prosocial behavior as “cooperation behavior” (Van Vugt, Biel, Snyder, & Tyler, 2000). For them, cooperation is a special form of helping, which can be distinguished from meso-level helping in several important ways: (a) the number of people who benefit, (b) the common interdependence, (c) the duration of help, and (d) the nature of the helping act (Schroeder et al., 1995; Van Vugt et al., 2000).

Instead of merely benefiting the one who receives help, players in cooperation, through their collective efforts, can help the groups to which they belong, their community, even the entire society (Van Vugt et al., 2000). Nevertheless, one cannot
conclude that cooperation never takes the form of one-to-one helping; instead, the key
distinguishing element is reflected in the cooperation that promotes the common interest
that will benefit all group members eventually. In other words, in a cooperative
relationship, individuals’ contributions not only help others but also, to some extent, help
themselves. For example, volunteering to help a crime victim in one’s neighborhood is
not a typical meso-level prosocial behavior because of the social context in which it
occurs. In such a situation, all residents are equal parties, working on achieving social
harmony in the neighborhood, hoping that they themselves will benefit from the same
generosity when misfortune happens to them in the future. In this sense, interpersonal
helping can be viewed as macro-level cooperation because it intends to promote the
interest of collectivity and to resolve a structural issue in society instead of an incidental
problem.

Although in the interest of every member in collectivity, collective interests, as
recognized by sociologists, do not always produce collective actions (Heckathorn, 1996).
The immediate interest of an individual usually prohibits him or her from altruistically
promoting the common good. The tension between individual and collective rationality
is identified as the essence of social dilemmas (Kollock, 1998). Game theory, through
its explanation of social dilemmas, is of substantial importance to the macro-level study
of prosocial behavior. The following section reviews this perspective in detail because
of its considerable relevance to the present research.
Social Dilemmas

Social dilemmas are scenarios constructed by game theorists to examine individuals’ decisions to cooperate with others or defect from communal responsibility in human groups. Such a dilemma exists when “an incentive structure (payoff structure) . . . leads individual actors to take a course of action that produces a collectively undesirable outcome” (Yamagishi, 1988, p. 32). According to game theory, when dealing with common issues, every individual in a given group has two motives: one to maximize his or her personal interest and the other to serve the common responsibility that will eventually benefit the individual himself or herself. Although everyone is better off if cooperation is the common choice, not to contribute is of immediate interest to every single member of the group, thus leading to the failure of collective action. As a result, everyone is worse off than if each of them makes a contribution. A situation of this kind where “the individual rationality leads to the collective irrationality” is known as a social dilemma (Kollock, 1998).

Dawes (1980), who proposed a formal definition of a social dilemma, identified two fundamental properties of social dilemmas. First, each member in the group receives a higher payoff for a socially defecting noncooperative choice, no matter what other people in the group do. Second, all members in the group are better off if all or most people choose to cooperate than if all or most choose not to cooperate (Dawes, 1980; Van Vugt et al., 2000). The first feature of the payoff structure indicates why the mutual interest is usually overcome by the divergent self-centered concerns of each person; the
second feature implies that achieving collective action is possible because individuals are aware that they will benefit from collective interest eventually.

The simplest presentation of social dilemmas is the two-person prisoners’ dilemma game (PD game). In this metaphor game, theorists generated a scenario in which two prisoners who jointly committed a crime are separately given the choice between confessing (defect) or keeping silent (cooperation) (e.g., Dawes, 1980; Koollock, 1998). Both players are informed of the rules of the game, according to which both should keep silent in order to get the ideal result for their common interests. Because of uncertainty about the other’s choice, however, the rational player will chose to testify against the other, rendering an outcome that is worse than if both had keep silent. The payoff structure of the two-person PD game is illustrated in Table 1.

Overall, in this mixed-motive situation, mutual interest is always overcome by the divergent self-centered concerns of each person. Maximization of joint benefit is impossible without proper communication, through which mutual trust is achieved (Kanouse & Wiest, 1967).

Since its discovery, the two-person prisoners’ dilemma game, with its simple representation of the tension between individual self-interest and collective interest, has been applied to countless large-group situations involving mixed motives (Richards, 2018).

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5 If both players cooperate, they each serve only six months in jail; if both defect, each of them is punished with two years’ prison time; if one cooperates and the other defects, the one who defects goes free; and the one who cooperates receives a more severe punishment, a 10-year prison sentence. For the individual player, the order of benefit that results from each combination of choices is DC>CC>DD>CD, where D denotes defection and C denotes cooperation (Kollock, 1998).
Most social dilemmas occur in groups that have more than two persons (i.e., an n-person PD game). Large groups face the same problems as those encountered in the two-person situation; in other words tension still exists between the self-centered individual motive and the community-oriented collective motive. The basic payoff structure of an n-person PD game is similar to that of a two-person game; therefore, defecting is again the dominant choice. Some important differences between the two-person PD game and the n-person PD game are apparent (Dawes, 1980).

First, in two-person dilemmas, the harm of the defection choice is specified for the individual, but in multiple-person dilemmas such harm is diffused and experienced by more people (Dawes, 1980). No one in multiperson situations will instantly perceive costs and benefits. Second, in a two-person game each player knows about the choice of the other, but in the multiperson situation, defecting behavior is anonymous most of time (Dawes, 1980). Thus, individuals in a large group are more likely to take advantage of others’ contributions because the chance of being detected and rebuked by a fellow group member is low. Third, in the two-person dilemma each player has a certain degree of control power over the other, but such power is much weaker in a large group.

Dawes (1980) pointed out that because of the diffusion of harm, high level of anonymity, and lack of control over other members, multiperson dilemma situations are better representations of social dilemmas than two-person dilemma situations.

In the study of social dilemmas, the first cut is made between two-person
The problem of acting for the public good was made popular by Mancur Olson, an economist, who published the famous essay “The Logic of Collective Action” in 1965. According to Olson (1965), a public good is by definition a resource that, once provided, will benefit all members. No one in the group can be kept from consuming it, regardless of whether he or she helps provide it. In this sense, a public good is non-excludable;
moreover, the enjoyment of public good is non-rival. One member’s consumption of public good will not reduce another’s benefit. In other words, a public good can be enjoyed by any number of members; the marginal cost for each additional consumer is zero (Heckathorn, 1996). For example, one can enjoy public television whether or not he or she contributes any money; and adding one more observer will not diminish its availability to other observers. In short, a public good has the properties of both non-excludability and non-rivalry.

Because a public good is equally likely to be consumed by every group member, two concerns become critical in terms of whether one decides to pay her or his own share of responsibility. They are the temptation of being a free-rider and unwillingness to be exploited. Both lead to defection in public good dilemmas. Free-riding refers to the behavior of enjoying the public good without contributing to its generation or preservation (Kollock, 1998); it derives from the greed of individuals to achieve the best interest for themselves. If all are free-riders, the public good can no longer be provided or maintained.

Other than the free-riding temptation, fear of exploitation also leads to the failure of participation in prosocial behavior. In some incidents, one may be willing to cooperate in promoting collective interest but may fear that insufficient others will do similarly and, therefore, the public good will suffer (Kollock, 1998). This concern is known as fear of being a sucker or fear of exploitation. Some theorists contribute the defection in social dilemmas more to the fear of being exploited than to free-riding. For
example, Klandermans (1988) argued that participants in collective action tend to believe they can make a difference through their own participation. Thus, when individuals expect that their contribution is negligible, they tend to constrain their cooperative behavior.

Because of the two concerns stated above, collective interests will not automatically lead to collective action in a public good dilemma situation; however, in reality we observe that many people in contemporary society offer to help promote the interests of others and the society by doing volunteer work, donating, supporting health care programs for the poor (Van Vugt et al., 2000), and participating in crime-prevention efforts. What leads people to overcome the divergent individual concerns and to take part in collectively desirable activities? To answer this question, game theorists have explored solutions to social dilemmas, the factors that promote cooperation in social dilemmas.

**Solutions to Social Dilemmas**

According to prior research, solutions to social dilemmas involve numerous aspects. In the current study, they will be categorized into two major categories: the objective situation and the subjective interpretation (Schroeder, Sibicky, & Irwin, 1995).

**Objective Situation**

The objective situation refers to the existing structure of the game and the
characteristics of the actors, which cannot be easily manipulated\(^6\) (Schroeder et al., 1995). It represents the rules of the social dilemmas game, specifying the rewards and costs associated with certain choices and the availability of information required for making decisions.

**Actor’s characteristics.** Characteristics of the actor reflect individual differences among those caught in the dilemma. The idea that individuals exhibit stable differences in prosocial tendencies has been widely accepted (Penner et al., 2005). Such differences are found to influence individual behaviors substantially. Researchers on helping behavior have identified a large number of personalities that promote or restrain helping activity. For example, based on the results of factor analysis, Penner et al. (1995) identified a so-called prosocial personality with two major dimensions. One dimension focuses on thoughts and feelings, such as a sense of responsibility; the other dimension concerns the self-perception of helpfulness, or the degree to which one tends to view himself or herself as a helpful and competent individual. Penner and other researchers have found a significant relationship between those prosocial dispositions and prosocial behaviors, ranging from interpersonal helping to volunteering behaviors directed towards coworkers and the organizations for which people worked (Borman, Penner, Allen, & Motowidlo, 2001; Eisenberg et al., 2002; Graziano & Eisenberg, 1997; Penner, 2002; Unger & Thumuluri, 1997).

\(^6\) Features may, however, vary.
personality variables, researchers on social dilemmas have also assessed the influence of individual features on acts of cooperation, but unlike the helping behavior literature, social dilemma research focuses only on one set of individual characteristics—an individual’s social motivation or social orientation (Penner et al., 2005). By simulating prisoners’ dilemma situations, Liebrand (1984) and Kuhlman and Marshello (1975) identified four primary orientations that drive people’s behavior in social dilemma situations, including individualistic, competitive, cooperative, and altruistic motives.

Some people exhibit a certain enduring tendency, which was formed early in life and has become a part of their permanent personality traits. In contrast, others switch between different orientations depending on the actual situation (Schroeder et al., 1995). Social orientations affect individual choice in the way that they differentiate actors’ interpretations of social dilemmas and, more importantly, the weight they might give to other members’ interests.

Research shows that individuals with different social orientations behave differently when confronted with the same social dilemmas. Cooperators, for example, are more likely to act toward the common good for their groups than individualists (Liebrand, Henk, Wilke, & Wolters 1986; McClintock & Liebrand, 1988). Researchers also found that one’s social orientations are relatively stable overtime probably because they result from one’s personality traits.

**Objective incentive structure (cost and benefit).** Most critical to social dilemmas is the payoff structure that defines the benefit and the cost associated with the
behavioral choice of cooperation or defection. An illustration of the payoff structure was presented in the previous section in Table 1. In general, the matrix demonstrates the distribution of benefit and cost of each combination of choice of whether to cooperate or defect. The amount of payoff one receives varies depending upon the dilemmas. In line with the basic assumption of rationality, increasing the cost for defection or the benefit for cooperation is expected to inspire more prosocial behaviors. Similarly, if the cost of cooperation is high, individuals are likely to constrain their willingness to promote the common good.

A large number of studies have been conducted assessing the influence of different payoff structures on prosocial behavior. As expected, results from those studies demonstrate that the greater the personal return from cooperation and the lower the return from defecting, the higher the levels of cooperation (Bonacich, Shure, Kahan, & Meeker, 1976; Isaac & Walker, 1988; Isaac, Walker, & Thomas, 1984; Kelley & Grzelak, 1972; Komorita, Sweeney, & Kravitz, 1980). Moreover, the most effective way to elicit cooperation in large groups is through the use of selective incentives, such as laws or social norms that punish defectors or reward cooperators (Heckathorn, 1996; Oberschall, 1973; Opp, 1989). Otherwise, free-riding will always be popular in large-group social dilemma situations.

Researchers who examined social dilemmas have revealed the correlation between payoff structure and cooperation rates; one limitation of those studies is that most of them merely deal with the incentives for cooperation but not the cost associated
with it. Although these studies are consistent with the game theory prediction that rewards increase cooperation, they do not shed much light on the game theory prediction that personal cost is expected to inhibit prosocial act. Literature examining helping behavior, however, has directly assessed the inhibiting influence of perceived personal cost on provision of help. For example, several researchers have pointed out that individuals are less likely to intervene in emergencies when more risk is perceived in the situation (e.g., Fritzsch, Finkelstein, & Penner, 2000; Shotland & Stebbins, 1983).

**Reciprocity (stable membership).** In game theory reciprocity refers to the expectation of reciprocal exchange derived from repeated games; it is a requirement for the emergence of cooperation in social dilemmas (Axelrod, 1984).

According to Shubik (1970), who conducted a study of the solutions to the two-person dilemma game, the likelihood of cooperation increases merely by repeating the games. Shubik drew this conclusion by simulating the condition of the two-person PD game in a mathematical model. Mathematically, the calculation showed how the final payoff for each player became conditional in multiple games and how individuals adjusted their choice with every outcome. Theoretically, one reason for repeated interaction to resolve the dilemma is that involvement in the game produces long-term thinking and constrains the temptation of free riding. In other words, contrary to the single game in which players meet just once and where free-riding behavior would not have any further consequence, multiple interaction in repeated games helps develop a belief of interdependencies among group members and suppresses the temptation of
free-riding because defecting (or free-riding) behavior is likely to be detected in future interaction (Heckathorn, 1996).

One way to enforce repeated interaction among individuals in various social groups in the society is to ensure stable group membership. With bonds to the group to which he or she belongs, an individual is left no choice but involvement in collective routines. In contrast, if the individual can freely decide to end his or her membership and cease involvement in the interdependent relationship at any time, the reciprocity used to overcome the free-riding temptation does not exist, leading to the failure of collective action.

**Communication.** Implicit in the nature of the PD game, another critical factor in deriving a solution to the social dilemma is face-to-face communication. According to numerous studies, when individuals are allowed to talk with each other, cooperation rates increase significantly (Dawes, McTavish, & Shaklee, 1977; Edney & Harper, 1978; Jerdee & Rosen, 1974; Jorgenson & Papciak, 1981; Kollock, 1998; Liebrand, 1984; Orbell, Dawes, & van de Kragt, 1990; Orbell, van de Kragt, & Dawes, 1988). Messick and Brewer (1983) suggested four possible reasons to explain the positive association between interpersonal communication and the level of cooperation. First, communication may enable individuals to judge what others will do in the social dilemma situation; the judgment provides a basis for one to make his choice. Second, by communicating with one another, actors gain an opportunity to make commitments about their own behavior and to elicit others’ commitment correspondingly. The third
aspect is related to the morally persuasive power of communication, which may pressure group members to agree on what is right and what is wrong. Finally, communication may also reinforce a sense of group identity, critical for eliciting group-driven behavior (Dawes, 1991).

Although communication in general increases cooperation rates, this facilitating effect may be absent when the communication is irrelevant to the common issue at hand or suggests that other group members are unconcerned with contributing to the collective interests. One study conducted by Dawes et al. (1977) on the common dilemma situation found that the choice to defect was significantly higher in the no-communication and irrelevant-communication conditions than relevant-communication conditions. In addition, no significant difference was found between no communication and irrelevant communication in terms of cooperation rates.

**Subjective Interpretation**

Although decision making in social dilemma situations is considerably affected by situational factors, it is eventually a subjective process in which the choice of behavior is based on how the situation is perceived, not necessarily on how it objectively exists.

**Affiliation.** As suggested by biosociology and research on helping behavior, individuals usually favor in-group members over out-group members and those not identified as in-group members (Penner et al., 2005). Similarly, in social dilemma situations, the extent to which people identify other members as socially close to them and recognize themselves as group members exerts substantial influence on subsequent
behavior. Many terms define such group identification, for example, as we-ness, sense of belongingness, sense of affiliation, group identification, and group attachment and commitment (Schroeder et al., 1995). Whatever term is applied, researchers have found that this sense of affiliation helps elicit collectively desirable action in a variety of forms from restraining resource-taking (Kramer & Brewer, 1986) to participation in social protests (Klandersman, 2000). For example, Kramer and Brewer (1986), in their study of resource management situations, found that the extent to which group members feel that they will all share a common outcome or are all part of a common group has profound effect on cooperation. Sense of affiliation also results in increased cooperation in a public-good situation by enhancing group altruistic motives and actors’ commitment to a group plan (Kerr & Kaufman-Gilliland, 1994; Lynn & Oldenquist, 1986).

The effect of group identification is so powerful that it can affect cooperation rates even in the absence of communication (Kloock, 1998) because actors who are identified with the group shift their focus from self-concern to concern for the well-being of other group members (Schroeder et al., 1995).

**Attribution and expectation.** Many researchers have argued that a more serious threat to collective action in social dilemma games is not that some group members free-ride on others’ contribution but the fact that a single person’s action may have no discernible effect on the situation (Heckathorn, 1996; Kloock, 1998). In other words, fear of being a sucker dissuades actors from acting collectively. Accordingly, one key factor for eliciting cooperation in dilemma games is to assure the actors of a cooperative
consensus among group members so they can make an efficacious contribution. Actors’ attribution of the intentions as well as the trustworthiness of coactors and their expectation about what the coactors will do enhance perceived efficacy (Schroeder et al., 1995).

First, attribution denotes the degree to which actors trust other group members to exercise their good intentions and act toward the common interest. It is the mutual trust that overcomes players’ fears of being a sucker by assuring them that a sufficient number of others will accept mutual responsibility. Actually, since the inception of the simplest form of the social dilemma game (i.e., the two-person prisoners’ dilemma), the game has been viewed as a problem of mutual trust (Held, 1966; Thompson, 1964; Wolff, 1962) because the reason that each player defects has been attributed to the lack of trust between the two players. If both players are confident that one would not betray the other, it would then be reasonable for them to favor the common interest. Researchers have argued that no reason for defection exists if the players have confidence in one another because they acknowledge that they both will benefit from the cooperation. Thus, mutual trust is the key to the dilemma.

Second, expectation denotes the way actors anticipate whether others playing the games may cooperate or defect. In social dilemma situations, other people’s behavior usually provides a guide for making one’s own behavioral choice, mainly because others’ choices directly affects one’s own payoff, by increasing or reducing the cost or benefit associated with cooperation (Kanouse & Wiest, 1967). If an actor expects that other
group members are unlikely to take cooperative action, fear of being a sucker will
dissuade the actor from contributing; on the other hand, if cooperation is expected as a
common choice, the actor will be more positive in making his or her contribution because
participation is likely to make a difference with others’ assistance.

In short, both attribution and expectation can act in a positive way to assure others
of the existence of a cooperative consensus and enhance perceived efficacy among
players in a dilemma game. At the same time, however, players might be more tempted
to free-ride on others’ contributions when they trust one another and expect cooperation
from others. This is a paradox when the players are assumed to be completely egoistical
individuals and when they take part only in a single round of interaction. In reality,
however, extremely self-centered individuals are rare. Most people give weight to the
common interests of the group to which they belong; moreover, involvement in ongoing
social relationship increases the possibility of the detection of free riding behavior, and
fear of punishment deters individuals from taking advantage of others efforts (Pruitt &
Kimmel, 1977).
CHAPTER 4: THE IMPLICATIONS OF SOCIAL DILEMMAS FOR THE STUDY OF INFORMAL SOCIAL CONTROL

In the last several decades, scholars have conducted a considerable number of neighborhood studies following the social disorganization tradition, in which they have examined the sources and consequences of neighborhood informal social control (Elliot et al., 1996; Sampson & Groves, 1989; Sampson et al., 2002; Sampson et al., 1997). Two common conclusions can be drawn from this large body of literature. First, informal social control is critical in achieving low crime rates and mediates much of the effect of neighborhood structural characteristics on crime and youth problem behaviors (e.g., Elliot et al., 1996; Sampson & Groves, 1989; Sampson et al., 1997). Second, the sources of informal social control involve various neighborhood contextual factors (e.g., Silver & Miller, 2004; Warner, 2003), including social ties and social networks (e.g., Bursik, 1988; Bursik & Grasmick, 1993; Sampson, 1987), neighborhood attachment (e.g., Logan & Molotch, 1987; Sampson & Groves, 1989; Woldoff, 2002), cultural organization (e.g., Sampson & Jeglum-Bartusch, 1998; Warner, 2003), collective efficacy (e.g., Sampson et al., 1997), and crime and disorder (e.g., Liska & Warner, 1991; Sampson et al., 1997).

As previously discussed, two major limitations are associated with these empirical studies designed to identify the sources of informal social control. One is the lack of a synthesized theoretical framework; the other is the lack of individual-level study that focuses on residents’ decision-making processes. Game theorists’ work on social
dilemmas fills the gap by providing a theoretical basis for identifying all major elements that help enhance individuals’ willingness to participate in various collective crime prevention efforts.

**Social Dilemmas in Achieving Public Order**

Note that social dilemmas describe situations created to understand collective action in human groups when a payoff structure leads to a collectively undesirable outcome. Accordingly, in order to apply the study of social dilemmas to the study of informal social control behavior in neighborhood context, several linkages must be made in advance.

First, is informal social control a form of collective action? Chapter 2 of this dissertation provided a positive answer. In brief, informal social control, defined as residents’ willingness to intervene in activities against crime and deviance, is a type of collectively desirable behavior that provides a public good at the cost of individual residents’ own interest. Identifying informal social control as a form of collective action establishes the first link between the two areas of study.

Second, is the neighborhood a meaningful human group that resembles those in the study of social dilemmas? The answer to the question is again positive. Although the groups in social dilemma research take many forms, their most critical attribute is that within each group all members are subject to the same set of rules of the game; they all benefit from the same set of group interests if they act collectively. For example, members of a labor union consider the union as an agent who pursues the clients’ interest
in achieving a higher wage, better working conditions, and stronger negotiating power.

In the criminological study of neighborhood crime, the neighborhood is viewed as a geographic and social subsection embedded within a larger community, which is a collection of both people and institutions occupying a spatially defined area influenced by ecological, cultural, and sometimes political forces (Park, 1916; Sampson et al., 2002); it represents a collective life and has some tradition of identity and continuity over time (Bursik & Grasmick, 1993). On one hand, the neighborhood has identity and boundary imposed on it by outsiders (Suttles, 1972); it represents the unit for distributing various public resources and services. On the other hand, the neighborhood binds people together and provides an important frame of reference for the actions of its residents (Bursik & Grasmick, 1993), who to some extent recognize the common interests and problems they share. Because of the recognition, various formal or informal neighborhood institutions exist in a large number of residential areas, representing the effort of neighborhoods to pursue common interests for all residents. In the case of neighborhood crime prevention, neighborhood watch, citizen patrol, and police–resident beat meetings are examples of the collective effort of the neighborhood to overcome a very pervasive threat to neighborhood life. As a geographic and social cluster that unites its members by a set of shared collective interests, the neighborhood satisfies what is required as “group” in the study of social dilemmas.

Finally, does neighborhood informal social control entail a dilemma, the payoff structure of which leads to a collectively undesirable outcome? As stated above, the
exertion of social control by residents in preventing deviant behavior is one form of collectively desirable behavior; therefore, it entails a social dilemma in which the common interest of maintaining public order usually surrenders to the divergent interests of each resident to stay away from trouble. Actually, participation in informal social control activities can be interpreted as a situation that resembles the “public good dilemma” for the following reasons.

First, the incentive structure (shown in Table 2) presented in neighborhood collective actions is similar to that in public good dilemmas. On one hand, a safe neighborhood is in the interest of each resident living in the area. People desire social order, clean environment, and most importantly, a residential area free from violent crime. Just like any public service that will benefit every member in the group, public order is the common interest that each resident in the neighborhood desires to achieve.

Engaging in activities designed to supervise teenagers, stop crimes, and preserve the ordered physical or social environment is expected to reduce crime rates. On the other hand, participation in those activities costs individuals’ time and energy, and sometimes, in extreme cases, puts one’s life in danger. Thus, an individual resident is concerned with the cost he or she must pay for providing or maintaining the common good, which constrains willingness to participate in this kind of socially desirable behavior. For an individual, avoiding any personal cost and staying away from potential trouble is rational; however, if every resident refrains from the mutual responsibility of maintaining public order, crime rates may increase.
Second, the crime-free environment maintained by informal social control activities is a type of public good with the properties of both nonexcludability and nonrivalry. All residents in their neighborhood can enjoy the safe atmosphere maintained by whoever engages in crime prevention activities regardless of their own participation; moreover, one resident’s enjoyment would not add cost to that of others.

One can safely conclude that being a special form of collectively desirable action, informal social control behavior contains a social dilemma in which the collective interest in maintaining public order is usually suppressed by individual residents’ immediate concern with staying out of trouble. The solutions to social dilemmas, therefore, may also enhance residents’ willingness to engage in various crime prevention activities by constraining the temptation of free-riding and alleviating the fear of exploitation. Next, I will discuss how to interpret solutions to social dilemmas in the study of informal social control in the neighborhood context.

Factors That Influence Residents’ Exercise of Social Control

Objective Situations

Actors’ characteristics. According to studies of helping behavior and social dilemmas, characteristics of actors, especially those representing one’s own social dispositions or social orientations, explain the varying levels of the tendency to participate in collective action. In the current research context, we can use individual residents’ normative beliefs to reveal inherent social orientations. Norms are negotiated rules that define socially desirable behaviors (Sherif, 1936). “Normative . . . means that
such social behavior is more characteristic (e.g., more uniform) of some sociocultural collective unit than of individuals observed at random” (Pepitone, 1976, p. 642).

Internalized belief\(^7\) in norms (formal or informal) reflects an individual’s tendency to give weigh to the interests of others or the society as a whole. Such tendency is the essence of what psychologists have defined as cooperative social orientation, believed to facilitate collective thinking and subsequent behavior. The first hypothesis of this dissertation is therefore that residents who hold positive attitudes toward social norms are more willing to intervene in activities for achieving public order.

In addition, the study also takes into account individual differences in sociodemographic characteristics because the differences reflect how well residents adapt to group life, their level of impulsiveness and immaturity, their capability of handling conflict situation, and most importantly, their perception of the final payoff for certain behavioral choices. In fact, some researchers on neighborhood-level informal social control have found that individual features, such as age and socioeconomic status (SES), exert substantial influence on the perceived level of neighborhood informal social control (Silver & Miller, 2006; Warner, 2003).

**Cost to cooperation – Perceived Risk.** Variable payoff structures lead to different decisions about whether or not to act cooperatively, implying that the benefit

\(^7\) People abide by norms for different reasons. Fear of sanction is one of them because deviating from norms usually results in punishment from the formal force of laws or informal social networks (Cialdini & Trost, 1998). Thus, looking at normative beliefs is a better way to tap into an individual’s social orientation than observing behaviors.
and cost associated with an intervention behavior influence one’s willingness to intervene. People are reluctant to take collective action when the cost of the cooperation is high. Before deciding whether to participate in activities designed to thwart deviant behavior, the actor will consider the possible cost to himself or herself. Whether and to what extent the intervention will bring danger to the actor himself or herself is the major cost that the actor will consider. Accordingly, I hypothesized that if the level of observed crime and disorder in a neighborhood is high, residents will restrict their intervention behavior as a result of fear.

Numerous researchers have discussed the consequences of observed crime and the perceived risk to residents’ behavioral outcomes (e.g., Bellair, 2000; Liska & Warner, 1991; Skogan, 1986). In general, the common conclusion drawn from those studies has been that fear of crime and perceived risk inhibit people’s willingness to engage actively in social affairs, including intervention behaviors, in particular those involving direct confrontation. For example, in their comparison of two low-income neighborhoods in Massachusetts, Maccoby, Johnson, and Church (1958) found that residents in the low-delinquency neighborhood were more likely to intervene in actual delinquency incidents than residents in the high-delinquency neighborhood. Hackler et al. (1974) found similar results when they investigated how neighborhood-level characteristics affected residents’ willingness to intervene. The findings suggested that residents were more willing to talk to teenagers involved in delinquency or inform their parents in neighborhoods with low crime rates than in those with high crime rates. In their study
of collective efficacy and violent crime across 343 Chicago neighborhoods, Sampson et al. (1997) also found that the measures of informal social control were inversely associated with homicide rates in the previous year. The same association was found in the study by Silver et al. (2004) on informal social control.

Usually, it is not the actual crime rate that affects people’s behavior but the visible or perceived reality that one can use to assess the potential risk. In other words, people’s assessments of risk are typically based on their evaluations of the reality of the threat of crime (Skogan, 1986). What they observe and what they hear in neighborhood life form their subjective interpretation of potential risk. Such perceptions may not be totally correct, but they constitute residents' view of their immediate environment (Skogan, 1986). These estimates of risk, according to Skogan (1986), have their roots in the reality of community conditions; therefore, the observed crime or signs of disorder is a better measure of perceived risk than actual crime rates.

Skogan (1986) summarized various perspectives in explaining why perceived risk inhibits intervention behavior. Among them, a rational-cognitive model, consistent with the work of game theorists in the area of social dilemmas, suggests that people are motivated to act by a desire to lower their risk of suffering damaging consequences and choose a behavioral response that they think is likely to work. According to Skogan (1986), the rational–cognitive model is a powerful model in explaining crime prevention behavior. The sociological model also points out the negative influence of crime on informal social control, but it does not assume human nature as rational. For example,
Conklin (1975) suggested that fear of crime produces insecurity, suspicion, and withdrawal from community affairs; thus in the long run, crime weakens community’s capability of exercising control over juveniles and strangers. This argument suggests that the influence of crime on informal social control may be either direct by arousing fear or indirect by undermining social cohesion and social interaction, which directly give rise to informal social control.

In summary, both the game theory work on social dilemmas and the sociological approach imply that the level of crime in local communities inhibits residents’ willingness to participate in activities for achieving public order.

**Reciprocity – Residential stability.** Involvement in long-term and meaningful relationships with other group members is a prerequisite for an individual to conquer the temptation of free-riding and to take cooperative action based on reciprocity. Then what would be an appropriate aspect of neighborhood life to convey the stability of one’s membership in a residential area? Residential stability might be a proper representation because it reflects whether and how residents are part of or will be part of the social exchange with other neighbors.

For people who own real property in a neighborhood and expect to live in the area for a long time, the neighborhood becomes a very important social setting in their everyday lives; and the way they behave in the setting substantially affects their images as perceived by their neighbors. Although one is at liberty to choose to abstain from the collective effort to achieve a desirable neighborhood environment and take advantage of
other neighbors’ contributions, long-term residents have difficulty ignoring consequential negative evaluation and response from their neighbors if they want to maintain their positive images in the neighborhood. Thus, stable residential status to some extent constrains free-riding behavior; moreover, people with stable residences are more likely to realize how their personal contributions add to common interests in the neighborhood and to have opportunities to observe other neighbors’ behavior, helping to shape the agreement of cooperation that implies, “If you cooperate, then I will, too” (Heckathorn, 1996).

On the contrary, people who temporarily dwell in the neighborhood are much more immune to the negative opinion caused by their disengagement in collective action than long-time residents. Like game players who meet only a handful of times, temporary residents have little incentive to adjust their behavior based on expected social interaction in the future. Long-term group interest easily surrenders to immediate individual concern. Because of the transitory nature of residency, people such as renters tend to care less about the improvement of neighborhood condition in the long run; when conditions decline, moving out of the neighborhood is always a realistic choice for them.

In brief, game theorists’ work in social dilemma suggests that the repeated social exchange ensured by stable group membership constrains the temptation of free-riding, and those individuals develop cooperative consensus based on reciprocity. Applying the premise to the current research context, I hypothesized that by sustaining the condition where repeated interaction among neighbors is likely to take place, stable residency
facilitates one’s willingness to engage in neighborhood collective effort for achieving public order.

**Communication – Interpersonal interaction.** Another important element for promoting collective action, as described above, is communication (Kollock, 1998), which enhances individuals’ willingness to act toward group interest by giving group members an opportunity to understand and discuss their common problems, by strengthening commitment and group identity, and by providing information about how others will perform in the current situation (Messick & Brewer, 1983). Again, this proposition also has implications with regard to the current research context where residents’ willingness to engage in crime prevention effort is our primary concern.

Interpersonal interaction is an important part of neighborhood life. Varying levels of such interaction among residents are observed every day. The forms of the interaction range from casual chatting among neighbors and simple get-togethers with friends to specifically arranged social events, during which a certain degree of communication occurs. The issues that the communication covers vary as well. Although communication in general facilitates collective thinking, which in turn leads to higher levels of willingness to participate in collective action, the facilitating effect might be absent under certain circumstances. In a neighborhood, when communication deals with the common issues at hand and indicates that other neighbors care about neighborhood interest, the facilitating effect might be substantial. When the communication suggests the otherwise, which is the indifference of neighbors to
preventing crime or their tendency to withdraw from collective crime-fighting effort, no facilitating effect (even an inhibiting effect) is expected. Nevertheless, the effect of interaction or communication on residents’ willingness to intervene is an indirect one. The key to determining whether or not such an effect exists is whether or not the communication serves to achieve the sense of group, to build interpersonal trust, and to elicit positive expectation from other neighbors.

Accordingly, an expectation in the current study was that frequent social interaction and communication would indirectly enhance willingness to participate in social control behavior, when such interaction is good for clarifying the common goal of realizing social order and fortifying group members’ confidence and positive expectation about others.

Subjective Interpretation

Affiliation – Associational ties and friendship/kinship ties. A sense of affiliation, which is one of the two subjective factors believed to promote cooperative behavior in social dilemmas, is reflected in (a) the way an individual identifies himself or herself as a member in a given group and (b) the way an individual identifies other group members as socially close to him or her. If an individual is better integrated into his or her group and perceives others as group members, he or she is more likely to participate in activities intended to promote the common interest of the group (Avdeyeva et al., 2006). Both an individual’s identification with the group and his or her intimate relationship with other group members can be measured in the neighborhood context.
The first aspect of the concept can be interpreted as the extent to which a resident is connected with and integrated into the neighborhood in which he or she lives. We can use neighborhood associational ties to describe such connection. Residents who actively participate in neighborhood organizations are usually willing to invest in their neighborhoods, seriously considering themselves members of the community and thus willing to assume their share of responsibility in maintaining order within it.

In addition to an individual’s identity in the neighborhood, his or her social distance from other neighbors also indicates the extent to which he or she feels the sense of belonging to the community. Friendship and kinship ties are indicators of social distance. The more friends and relatives one has in the neighborhood, the shorter the distance. The intimate relationship one develops with neighbors may lead to a shift of focus from self-concern to the concern for the well-being of other neighbors.

In fact, the systemic model of neighborhood organization has long depicted the neighborhood as a complex system of friendship/kinship ties and organizational ties that foster the informal mechanism of social control (Kasarda & Janowitz, 1974), but the emphasis of the model is on neighborhood-level structures and the embedded socialization processes. In the current study, however, I considered individual differences in ties to the neighborhood and the neighbors within it, interpreted such ties as the indicators of the existence of a strong sense of affiliation, and hypothesized that individuals who are more attached to neighborhood life and who have more intimate relationships with their neighbors are more willing to engage in behaviors aimed at
thwarting deviance.

**Attributions and expectations on neighbors and on police.** The final factors producing the most direct effect in promoting collective action are attributions and expectations, that is, the cooperative consensus derived from mutual trust and positive expectation among group members.

In fact, the concept of collective efficacy introduced by Sampson et al. (1997) to modern neighborhood crime study is an analog to what game theorists call attributions and expectations. The two components of collective efficacy according to Sampson et al. (1997) are (a) the mutual trust and support of neighbors and (b) the shared expectation among neighbors of willingness to intervene. Both components help individual residents perceive high levels of efficacy and assure that enough others support the collective action when the interest of the neighborhood is threatened by crime, deviance, and disorder. When a resident believes in the good intentions of and expects assistance from others, the subjective cost associated with intervention behavior is presumably reduced, thus facilitating his or her willingness to make a personal contribution. On the contrary, when trust is absent and other neighbors are portrayed as indifferent to combating crime, one may doubt that his or her own indiscernible efforts will change the outcome. This is a strong discouraging power that restrains one’s willingness to make his or her personal contribution to the group, especially in situations such as crime prevention, where potential danger is associated with contributing.

In line with the propositions in both game theory and collective efficacy theory, I
hypothesized in the current study that individual residents are more willing to exert social control in maintaining public order when they trust their neighbors and expect their neighbors to do the same.

Besides residents, in the context of neighborhood crime prevention, potential participants in social control include the other entity that plays a crucial role in fighting crime and enforcing laws—the police. Accordingly, one can reasonably believe that the decision to exert social control depends not only on residents’ expectation of what their neighbors will do when crime occurs but also on their perception of the effectiveness of police performance. In the following analysis, therefore, I included among other indicators a variable to measure residents’ satisfaction with police and hypothesized that perceptions of effective police work facilitate residents’ willingness to participate in crime control efforts on their own.

**Causal Framework**

The foregoing is how I interpret the solutions to social dilemmas in the current research context of neighborhood informal social control. Overall, the factors hypothesized to affect the exercise of informal social control include individual characteristics, residential stability, perceived risk, interpersonal interaction, sense of affiliation, and residents’ attribution and expectation of their neighbors and the police. The effects of those factors, however, are not parallel; the causal order needs further discussion.

First, the factors are generally categorized into two groups—objective situation...
and subjective interpretation—as adopted in the study of social dilemmas. Individual characteristics, residential stability, perceived risk, and interpersonal interaction are considered objective because they specify the existing structure of the dilemma and the availability of information required for making decisions. For example, residential stability entails the possibility of future social exchange among neighbors, which is very crucial for suppressing the tendency of free-riding, and interpersonal interaction makes it possible for neighbors to communicate with each other and to know about others’ choice as whether or not to promote the common good. Sense of affiliation and attribution and expectation are considered subjective because they more concern residents’ feelings and attitudes towards their neighborhoods and/or neighbors. According to game theory and/or theories of social psychology, such subjective feelings have strong influences on one’s behavioral outcome even without the objective social exchange.

Second, Figure 1 demonstrates the causal framework for organizing the decision-making process in social dilemmas. As shown in Figure 1, Schroeder et al. (1995) suggested that decision making is a process in which the objective situation affects final decision making through the actors’ subjective interpretation of the situation; furthermore, of the two components of subjective interpretation, attribution and expectation has the most direct effect on decision making. According to Schroeder et al. (1995), this component represents “the actor’s shift from consideration of the given

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8 The original causal framework of Schroeder et al. (1995) included the post decision-making process.
payoff matrix to consideration to the *effective payoff matrix*” (p. 192).⁹ As a whole, the causal framework shows how important the role of perceived efficacy is in determining individuals’ behavioral choices when they are subject to certain social dilemmas.

Applying the framework to the current context, I expect that residents’ attribution and expectation of their neighbors and the police would have the most direct effect on their willingness to exert social control. Sense of affiliation, the other subjective factor, which is reflected in the strength of social ties, would have the direct effect as well, but part of the effect might be mediated by the perceived efficacy, because the strength of the association between a resident and his/her neighbors tends to affect how the resident trust their neighbors and expect support from them. The effects of the objective factors, including residential stability, perceived risk, and interpersonal interaction on informal social control would be mediated by the sense of affiliation or/and the attribution and expectation of the neighbors and the police. Specifically, stable residency might enhance the association among residents and elicit stronger sense of affiliation; perceived risk, which is reflected in the observed level of crime and disorder, might hamper residents’ confidence on both their neighbors and the police; and interpersonal interaction might allow residents a chance to understand others’ attitude and choice, and thus, reinforce the sense of group identity and mutual trust. Meanwhile, the sense of affiliation might also influence interpersonal interaction, because people tend to

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⁹ The terminology of the “given payoff matrix” and the “effective payoff matrix” was first articulated by Kelley and Thibaut (1978).
communicate and interact with those who they consider as friends or socially close to them.
The purpose of the current study was to investigate whether the solutions to social dilemmas developed by game theorists are applicable to the explanation of residents’ willingness to exert social control in a neighborhood context. Overall, those solutions identified in the previous section include individual differences, low cost to cooperation (low perceived risk), involvement (residential stability), communication (interpersonal interaction), affiliation (associational and friendship/kinship ties), and attributions and expectations (perceived efficacy). Clearly, the next critical step for the current study was to measure those factors in the neighborhood context using available data sources. Chapter 5 opens with an introduction of the survey entitled “Informal Social Control of Crime in High Drug Use Neighborhoods in Louisville and Lexington, Kentucky, 2000,” followed by a description of the sampling strategy, and concludes with a discussion of the measures and analytical model used in the dissertation.

Data Sources and Sampling Strategies

The data used in the analysis comprised one part of a National Institute of Justice-funded study examining informal social control in high drug-use neighborhood, entitled “Informal Social Control of Crime in High Drug Use Neighborhoods in Louisville and Lexington, Kentucky, 2000.” The data were gathered from 2,309 respondents 18 years of age or older residing at the time of the survey at randomly sampled addresses in 66 neighborhoods (i.e., census-defined block groups) in the two cities in Kentucky.
The sampling plan was developed to assure a sufficient number of high drug-use neighborhoods as well as an adequate distribution of predominantly White, predominantly racially mixed, and predominantly minority neighborhoods. To achieve these goals, a nonproportional stratified sampling of block groups was used. Once block groups were sampled, all street segments within those block groups were identified. Using the street section of city-wide directories, all addresses on these street segments were then identified, and the sample of approximately 60 households from each block group was selected using systematic random sampling. Since the cross-reference directory distinguished between residences and businesses, only residences were included in the sampling frames.

Each sampled household was mailed a letter explaining the purpose of the study and stating that the household might be contacted to participate in the study. At this point, households with phones were separated from the households without phones. Individuals in households with telephone numbers were interviewed over the phone, whereas individuals in households without telephones were interviewed with a face-to-face survey. In each household, the person who most recently had had a birthday and who was at least 18 years of age was interviewed. The overall response

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10 Because the results of the current study were not used in generalizations pertaining to the entire population but to test a causal model, I had no need for a probability sample; moreover, disadvantaged neighborhoods with high crime rates are typically of great concern in the study of social control. I was especially interested in understanding how residents in high-crime areas respond to counternormative behavior.
rate was 60%.\textsuperscript{11}

The survey data were supplemented with block group-level data from the 2000 U.S. Census, which provided information on population counts, demographic structure of the population, and poverty indexes, and with data from the Lexington and Louisville Police crime incident reports and police data on drug arrests.

**Measures of Variables**

**Outcome**

**Support for informal social control.** Residents’ choices about whether or not to intervene in activities aimed at preventing deviant behavior and achieving public order was the outcome variable in the current study. I used respondents’ attitudes toward being part of intervention behavior to measure the outcome. In the survey, respondents were asked the following: How strongly do you agree that (a) it is appropriate to question strangers; (b) it is appropriate to intervene in suspicious behaviors that occur in your neighborhood; and (c) it is better not to get involved when someone in your neighborhood behaves inappropriately. The answer to the questions was 1=strongly agree, 2= somewhat agree, 3= somewhat disagree, and 4= strongly disagree. All three questions involve the same underlying concept, which is an individual’s support for the

\textsuperscript{11}The response rate was based on the percent of eligible respondents contacted. Cases of unknown eligibility (busy signals, disconnects, no answers) and ineligibility (no longer living at that address) were excluded from this calculation as defined by the American Association for Public Opinion Research (1998). For telephone interviews, attempts with no answers were tried at least 20 times, and some were tried as many as 30 times. Disconnects were treated as temporary and retried after two weeks. For face-to-face interviews, interviewers made up to five attempts to find someone at home.
exercise of informal social control; therefore, after reversing the coding for the first two questions, I averaged the standardized value of the three items and created an index to measure the outcome variable.

Notably, asking people about their supportiveness of certain behavior was not an objective measure of their actual behavioral choices. Researchers reported discrepancies between attitude and behavior from time to time in different subject areas (for review, see Ajzen & Fishbein, 1977; Ajzen & Madden, 1986; Festinger, 1964; Wicker, 1969), which cast some doubt on the validity of attitudinal measures adopted in behavioral research. The discrepancy also showed that the failure to find correlation between attitude and behavior was largely due to the result of improper research design and low attitudinal relevance\(^\text{12}\) (Ajzen & Fishbein; 1977, Kaiser, Wolfing, & Fuhrer, 1999; Kim & Hunter, 1993; Schuman & Johnson, 1976). Specific (as opposed to general) attitudes toward an act (as opposed to attitude toward the object) over which the actors have control by contrast was found to be associated substantially with the correspondent behavior (Kaiser et al., 1999; Kim & Hunter, 1993; Schuman & Johnson, 1976). In one meta-analysis where 138 attitude–behavior correlations with a total sample size of 90,908 were analyzed, Kim and Hunter (1993) reported a strong overall attitude–behavior relationship (r = .79), disregarding the behavioral content. The relationship between attitude toward altruistic behavior and the overt act was not an

\(^{12}\text{Attitudinal relevance is defined as the degree of match between attitudinal and behavioral elements and also known as generality equivalence and specificity hypothesis (Kim & Hunter, 1993).}\)
exception; significant positive attitude–behavior correlations were found in studies concerning blood donation (Bagozzi, 1981), volunteering (Kim & Hunter, 1993), energy conservation (Seligman, Kriss, Darley, Fazio, Becker, & Pryor, 1979), and willingness to pay for public safety (Donahue & Miller, 2006).

In short, previous literature has found strong positive relationships between attitudes and overt behavior, given proper attitudinal relevance. In my study I adopted residents’ support for the participation in intervention behaviors as a proxy for their willingness to intervene; the degree of match between the attitudinal and the behavioral elements was high. First, the measure was of an attitude toward an “act” instead of a general “objective,” such as whether one thinks maintaining neighborhood order is every resident’s responsibility. Second, in terms of specificity, one may argue that the attitudinal question used in the current study was not specific; it did not clarify whether the intervention behavior was direct or indirect. For example, one may choose to interfere directly with juvenile delinquents (or their parents) or call formal authorities to deal with them. Either way, however, according to the theory in the current study, was collectively desirable and individually costly. Just like direct intervention, which may result in retaliation, calling police was also costly to residents by attracting the attention to them (Maccoby et al., 1958); or in some cases, making them witnesses in criminal prosecution. Therefore, whether to specify the intervention as direct or indirect had nothing to do with the subject of the current investigation; both conformed to the definition of informal social control adopted in the study.
In conclusion, one can reasonably expect that the measure of residents’ support for informal social control would be positively and strongly associated with the measure of their actual behavioral tendency. Nevertheless, caution should be exercised in interpreting the empirical results of this study.

**Individual-level Predictors**

**Demographics and SES.** In keeping with the cost-benefit hypothesis of game theory and previous research on fear of crime, I predicted that women and older citizens would be less willing to intervene against deviant behavior because of their greater vulnerability to crime and their lower capability to ameliorate the conflict situation. I also predicted that education level would be positively associated with residents’ making decisions for promoting neighborhood interest because a considerable number of studies found that the better educated are more likely to participate in various prosocial behaviors than the lower educated because education enhances human capital, social skill, and civic engagement (Bekkers & Graaf, 2005; Brady, Schlozman, & Verba, 1999; Brooks, 2005; Healy, 2000; Reed & Selbee, 2001). Residents’ race and marital status were included as control variables.

Among those demographic characteristics, gender was measured as 1 for males and 0 for females; race was measured as 1 for White and 0 for non-White, and age was treated as a continuous variable. For marital status those married were coded 1, and others were coded 0. Education had five ordinal categories from “less than high school” to “graduate or professional degree” and were treated as an interval scale.
**Normative beliefs.** To measure residents’ normative beliefs, I used four survey questions that asked about respondents’ attitude toward general social and legal norms. The questions follow: How strongly do you agree or disagree that (a) it is important to be honest; (b) it is wrong to drink alcohol to the point of getting drunk; (c) selling drugs is always wrong; and (d) it is OK to smoke marijuana. The answer to the questions was 1=strongly agree, 2= somewhat agree, 3=somewhat disagree, and 4=strongly disagree. The first three items were reverse coded for a larger number to present stronger belief in social norms. Each respondent’s answers were averaged across items as long as respondents had valid responses to at least two items. Cronbach’s alpha for the scale was .60.

**Residential stability.** Residential stability reflects the likelihood of an individual’s involvement in long-term social exchange with other residents in the neighborhood, assuring the reciprocity that overcomes the free-riding temptation. I chose home ownership over length of residence as the measure of the individual-level residential stability. I coded owned real property as 1 and others as 0.

**Perceived risk.** Variable payoff structures lead to different behavioral choices in social dilemma situation, which implies that the benefit and cost associated with intervention behavior influences willingness to exert social control. Accordingly, I expected that the perceived risk of crime would constrain residents’ willingness to intervene by increasing the potential cost associated with the intervention behavior.

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13 The reason that home ownership is the better measure was discussed in Chapter 3.
Although no question in the survey directly asked for respondents’ perceptions of risk to crime, the concept was measured in the dissertation by the observed level of neighborhood social disorder, which according to many researchers is as powerful in generating feelings of fear as violent crime itself (LaGrange, Ferraro, & Supancic, 1992). Respondents were asked to rate the seriousness (1=very often, 2=sometimes, 3=seldom, 4=never) of the following problems in their neighborhood: (a) people drinking alcohol in public, (b) people drunk in public places, (c) people using drugs, (d) people buying or selling drugs, and (e) people using foul language.

The coding was reversed: A larger number presented higher level of perceived risk. Each respondent’s responses were averaged across items as long as respondents had valid responses to at least three items. Cronbach’s alpha for the scale was .90.

**Interpersonal interaction.** Interpersonal interaction entails how frequently group members communicate and interact with each other. In the survey, the respondents were asked about how often they (a) ask someone from the neighborhood over to their house or go to the neighbor’s house for a meal, to play cards, watch TV, or talk; (b) borrow from or exchange things with neighbors, such as food, recipes, or tools; (c) ask a neighbor for help; (d) go out for an evening with someone from the neighborhood to a movie, sports event, for a drink, etc; and (e) talk to someone in the neighborhood about personal problems.

The answers to the questions were 1=about once a day, 2=about once a week, 3=about once a month, 4=several times a year, 5=about once a year, and 6=never.
reversed the coding so that higher scores represented more frequent interpersonal communication and interaction. Each participant’s responses were averaged across items as long as they had valid responses to at least three items. Cronbach’s alpha for the scale was .80.

**Affiliation.** Affiliation has two components: (a) how individual actors identify other group members as socially close to them, which is reflected in the strength of friendship/kinship ties; and (b) how individual actors identify themselves as group members, which can be measured by participation in neighborhood activity (or associational ties).

Accordingly, I first calculated the total number of neighbors who are respondents’ relatives and whom respondents consider as friends. Noticing several extremely large values with each of the two items (e.g., one had 1,000 friends in his neighborhood), I truncated those values before combining them to measure the friendship and kinship ties. Then, the number of times respondents attended neighborhood meetings in last six months was used to capture individual residents’ associational ties. I standardized both items and combined them as a single index to measure the sense of affiliation.\(^\text{15}\)

**Attribution and expectation of neighbors.** Two elements constituted this factor:\(^\text{14}\)

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\(^{14}\) For the four cases in which the respondents reported to have friends more than 75, I truncated them to 50, the highest number of the rest of answers.

\(^{15}\) The correlation coefficient between these two items is 0.21 (p<0.001), which is not very high; however, according to the manner in which the concept of the sense of affiliation is conceptualized, one can reasonably believe both tap into the same concept.
Attribution was measured by five conceptually related items. Respondents were asked how strongly they agreed that people in their neighborhood (a) can be trusted, (b) care about the neighborhood, (c) take an interest in the welfare of the neighborhood children, (d) generally get along with each other, and (e) share the same values. The coding for the answer was 1=strongly agree, 2=somewhat agree, 3=somewhat disagree, and 4=strongly disagree. Again, I reversed the coding. Each respondent’s responses were averaged across items as long as respondents had valid responses to at least three items.

In measuring residents’ expectation on others’ behavior, I combined six Likert-scale items. Residents were asked about the likelihood that their neighbors would intervene if (a) children were spray painting graffiti on a local building, (b) children were showing disrespect to an adult in the neighborhood, (c) a fight broke out in front of your house in plain sight, (d) someone were breaking into your house in plain sight, (e) someone were trying to sell drugs to an adult in plain sight, and (f) someone were trying to sell drugs to a neighborhood child in plain sight. In the original dataset, the coding for the Likert-scale was 1=very likely, 2=somewhat likely, 3=somewhat unlikely, and 4=very unlikely. Again I reversed the variable so that the larger number score represented a higher likelihood of residents’ expecting that a neighbor would intervene against deviant behaviors. Each respondent’s responses were averaged across items as long as respondents had valid responses to at least three items.

The measures for attribution and expectation were closely related to each other at
the individual level \((r=0.59, p<0.001)\), suggesting that they tapped into the same latent concept. Accordingly, the two elements— attribution and expectation — were combined to create an index for measuring the attribution and expectation of neighbors.

Cronbach’s alpha for the eleven-item scale was .88.

**Attribution and expectation of police.** To measure residents’ attribution and expectation of police, I combined two survey questions. In the survey, respondents were asked how strongly they agreed that the police play an important role in preventing crime in this neighborhood; and police are generally helpful when dealing with people in this neighborhood. The coding for the answer was 1=strongly agree, 2=somewhat agree, 3=somewhat disagree, and 4=strongly disagree. I reversed the coding and averaged the value across both items as the final measure.

**Neighborhood-Level Predictors**

Although my current study approached willingness to intervene as an individual level decision-making process, some neighborhood level characteristics deserved consideration because the data in the analysis exhibited a hierarchical structure. Noting that the response rate of the survey was low (60%), in the upcoming analysis I included only those neighborhood characteristics that can be precisely measured by census data and police data to avoid possible bias\(^{16}\) generated by the low response rate.

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\(^{16}\) I checked the distributions of several variables related to demographic features (e.g., gender and race, etc.) of respondents and compared them to census data. I found that women and members of racial minorities were overrepresented in the sample, which indicated that neighborhood characteristics aggregated from respondents’ answers might be biased.
Concentrated disadvantage. Structural characteristics of a neighborhood have been consistently found to influence most social mechanisms in the neighborhood context (e.g., Sampson & Groves, 1989). More specifically, those characteristics involve the measure of neighborhood concentrated disadvantage, residential mobility, and immigrant concentration (Sampson et al., 1997). Among them, neighborhood concentrated disadvantage denotes low socioeconomic status in racially segregated urban neighborhood. Accordingly, it can be measured by a set of variables related to economic, educational, occupational, and racial features of a neighborhood. In the current dataset, those SES-related variables included percentage of household below poverty line, percentage of residents with less than high school education, percentage of female-headed households with children under the age of 18, and percentage of African American residents. The principal component analysis produced only one factor with eigenvalues greater than one. All four variables loaded on the disadvantage factor and their factor loading were percent below poverty line (.85), percent with less than a high school degree (.88), percent female-headed household with children under the age of 18 (.81), and percent African-American (.70). Hence, I combined the standardized value of these four variables as the measure of concentrated disadvantage. Cronbach’s alpha for the index was .82.

Residential stability. The second structural characteristic frequently found in neighborhood-level studies is residential stability. It is measured by the percentage of owner occupied housing units based on 2000 census.
The final one, concentrated immigrants, is usually measured by the percentage of Latino and foreign-born residents. In the current dataset, however, no measure was made of the percentage of foreign-born residents; moreover, the percentage of Latino residents does not have enough variation to ensure the analysis.\textsuperscript{17} Thus, I did not include concentrated immigrants in the study.

\textbf{Drug arrest rates.} Perceived levels of risk of violent crime differ among neighborhoods and might lead to fear of retaliation when people make decisions about whether or not to intervene in deviant behaviors. In order to capture the objective level of observed violent crime, the drug arrest rate in 1999 was used. Justification for this measure are as follows. First, the survey oversampled neighborhoods with high drug activity, perhaps the most common type of crime that residents observe in their everyday lives (Warner, 2003). Second, the actual level of drug activity was difficult to assess; therefore, I used drug arrest rate as the measure. Specifically, drug arrest rates were calculated by dividing the total number of drug arrests in 1999 by the 2000 U.S. Census neighborhood population counts and multiplying by 1,000. Because the distribution of the rates was highly skewed, I used the logged drug arrest rates as the final measure.

\textbf{Analytic Strategy}

Because the data employed in the study exhibited hierarchical structures with individual observations nested within neighborhoods, hierarchical linear models were

\textsuperscript{17} Forty-three of 66 neighborhoods had no Latino residents and the standard deviation for percent Latino was less than 1%.
More specifically, the approach to simultaneously analyze data at both the neighborhood and individual levels within a regression framework required me to consider the possibility that disturbances within the neighborhood units might be correlated. In other words, the clustered data structure involved a problem known as nonindependence of error terms, which violated the assumption of independent observations that underlies standard regression-based techniques and increased the potential for type I errors in the statistical test.

To solve this problem, I used hierarchical linear models (Bryk & Raudenbush, 1992) to correct for the lack of independence among nested observations. I did so by separating the residual variance into two components: a residual variance at the individual-level and a residual variance that is constant across individuals within a neighborhood but random across neighborhoods. The standard errors produced by this approach allowed for valid tests of statistical significance at both the neighborhood and individual levels (for more discussion, see Bryk & Raudenbush, 1992).

Although the variation at both levels was included in the analysis, the focus of the final discussion of the analysis was on the individual level because the research question asked how an individual resident make his or her decision whether or not to exert social control. Moreover, in analysis the individual-level variables, excluding the dummy, were grand-mean centered so that the effects of the level 2 variables could be directly interpreted as contextual effect (Raudenbush & Bryk, 2002).

The multilevel equations adopted in the analysis and the denotations for each
symbol appear below.

LEVEL-1 MODEL

\[ Y_{ij} = B_{0j} + \sum_{p=1}^{q} \beta_{pj} X_{pij} + r_{ij} \]

\[ r_{ij} \sim N(0, \sigma^2) \]

LEVEL-2 MODEL

\[ \beta_{0j} = \gamma_{00} + \sum_{p=1}^{q} \gamma_{0p} Z_{pj} + \mu_{0j} \]

\[ \mu_{0j} \sim N(0, \tau_{00}) \]

\[ \beta_{pj} = \gamma_{p0} \]

Denotations:

\( Y \): Willingness to exert social control;

\( X \): Individual level predictor;

\( Z \): Neighborhood-level predictor;

\( \gamma \): Fixed effect coefficient;

\( Var(\mu) \): Variance component;

\( r \): Individual level error term;

\( i \): Number of individual level observations within certain neighborhood;

\( j \): Number of neighborhoods;

\( q \): Number of predictors at individual level;

\( Q \): Number of predictors at neighborhood level.
CHAPTER 6: RESULTS AND DISCUSSION

Results

The descriptive results for all variables are shown in Table 3. The upper portion of the table summarizes the descriptive statistics of the individual-level outcome variable and indicators (N=2,188)\(^\text{18}\) included in the study. As shown in Table 3, all individual-level variables exhibited a certain degree of variation across individuals. For example, 33% of the respondents were male, the average age for respondents was 45 years old, and approximately 50% of the respondents owned real property in the neighborhood where they resided at the time of survey; members of racial minorities constituted the majority in the sample (47% were White and 53% were non-White), which is reasonable because the survey oversampled disadvantaged neighborhoods.

The lower portion of Table 3 shows descriptive statistics of neighborhood-level variables (N=66). Again, as illustrated, the variation in each of the three variables was substantial.

After examining the descriptive statistics and investigating the normality of distribution of all variables, I turned to the estimation of causal models. Before testing the causal models, I first examined the variance components for the dependent variable—support for informal social control. To determine how such cooperative

\(^{18}\) 2,188 represented the number of cases after all missing data were deleted. There were 121 missing data (item-missing) at the individual level. Because it was only a small portion (5%) of the whole number of respondents and also those missing cases were almost equally distributed across neighborhoods, I deleted those missing data before further analysis.
attitude varied within and between neighborhoods, I constructed the null model with both individual-level and neighborhood-level variances. The analysis of the null model shows that the between-neighborhood variance component was .40 (p<.001) and the within-neighborhood variance component was 4.35, which means 8.4% of the variance in the support for informal social control was between-neighborhood variance and the remaining 91.6% lay within the neighborhood. The analysis below explains both portions of variance with the emphasis on the latter.

In accordance with the theoretical framework, which specifies the causal order with subjective factors mediating the effects of objective ones, three models were estimated using the restricted maximum likelihood method in HLM.

**Model 1**

In order to investigate how the objective situation determines residents’ support for informal social control, I first added the set of individual-level objective factors to Model 1, controlling for neighborhood-level structural characteristics. More specifically, those objective indicators included gender, age, race, level of education, marital status, normative beliefs, perceived risk, residential stability, and interpersonal communication. As illustrated in Table 4, except for gender, all individual-level variables included in the model were significantly associated with the outcome variable. Below, I present the results one by one, starting with the associations between individual residents’ characteristics and the outcome.

Among the sociodemographic characteristics, age was significantly and
negatively associated with the outcome, indicating that older residents are less supportive of intervening in suspicious behaviors that occur in the neighborhood.

Membership in different racial groups (majority or minority) is also a good indicator of whether an individual thinks engaging in social control activity is a good decision for him/her to make. White people agreed more than racial minorities on expressing their disapproval of people who perpetrated deviant acts in their neighborhoods.

Level of education was a strong indicator as well. The association was positive and statistically significant, which means residents with higher education level are more supportive than those with lower education level to participate in social control efforts in their neighborhood.

Marital status, again, was associated with the outcome variable. Compared to the single, residents in marital relationships were more supportive of activities against deviant behavior that occurs in their neighborhood.

On the contrary, the analysis of Model 1 failed to reveal any association between gender and the outcome variable. In other words no evidence allows me to conclude that men and women are different in terms of their supportiveness for informal social control in the neighborhood context.

In addition to individual demographics, I also estimated in Model 1 how another individual characteristic—residents’ normative beliefs— influenced willingness to intervene. As shown in Model 1 of Table 4, the indicator was positively and
significantly associated with the outcome: The more strongly a resident believed in conventional (or prosocial) values, the more supportive he or she was to take action against suspicious or deviant behaviors that jeopardized the public order in the neighborhood.

Based on the theoretical framework presented in the previous chapters, three more hypothesized objective factors influenced residents’ decision to exert social control. They are perceived risk to cooperation, which was measured by observed neighborhood incivility; reciprocity measured by residential stability; and communication measured by interpersonal interaction. Accordingly, in the first model, I also estimated the hypothesized relationships between these three factors and the outcome.

Perceived risk was negatively and significantly associated with the support for informal intervention, which indicates that the more a resident observes signs of social disorder in the neighborhood, the less supportive he or she is to make the effort to intervene in order to control suspicious or deviant behaviors.

Residential stability was positively and significantly correlated with the outcome variable, controlling for all other indicators included in the model. Note that residential stability was measured by home ownership. Thus the result can be interpreted as follows: residents who own the real property in the neighborhood are more supportive than others, such as renters, to participate in social control activities.

The final independent variable falling into the category of objective situation is interpersonal interaction. As illustrated, this indicator was positively and significantly
associated with the outcome variable as well, which means that the frequency of social interaction with his or her neighbors explains a resident’s supportiveness for participation in social control, with more frequent interaction bringing more cooperative attitude.

Altogether, the nine individual-level objective factors explained 6.7% of within-neighborhood variance of residents’ support for informal social control.

After the interpretation of all individual-level associations, I also considered between-neighborhood variance. Among the three neighborhood-level structural characteristics, only neighborhood concentrated disadvantages were significantly associated with the outcome, independent of person-level variables. The relationship was negative, which indicates that the average level of cooperative attitude on informal social control tends to be low in socially disadvantaged neighborhoods. No statistically significant relationships were found between the other two neighborhood-level indicators—residential stability and drug crime—and the outcome variable. In combination with the individual-level objective factors, Model 1 explains 80.1% of between-neighborhood variance, and the aggregate level variance component was statistically insignificant.

Model 2

The analysis next turns to the estimation of the second model by adding the first subjective factor—residents’ sense of affiliation—into the equation. As shown in Table 2, the sense of affiliation was positively and significantly associated with the support for informal social control, independent of all objective factors. This result is consistent
with my hypothesis that the more people feel their neighbors are socially close to them and the better they are integrated into local communities, the more supportive they are to promote the collective interest of their neighborhoods.

By comparing Model 2 to Model 1, I found that the effects of marital status, home ownership, and interpersonal interaction on informal social control were substantially reduced, which could be the sign of mediation. Specifically, the coefficient for marital status became marginally significant, the coefficient for home ownership was reduced by 22% (from .302 to .236), and the coefficient for interpersonal interaction was reduced by 37% (from .186 to .117), suggesting that part of the effects of these three objective factors on the outcome variable is mediated by residents’ subjective sense of affiliation. In other words, residents who are married, who own houses in the neighborhood, or who frequently interact with their neighbors tend to develop an intimate relationship with other residents and the neighborhood as an entity, which, in turn, enhances their cooperative attitude toward participation in effort for achieving collective interest. Meanwhile, as discussed previously, the reduction of the coefficient for interpersonal interaction might also be a result from a spurious effect in which affiliation enhances the both intensity of social interaction and cooperative attitude at the same time. The effects of other objective factors, however, remain the same after adding the sense of affiliation. Model 2 increases the explained within-neighborhood variance of informal social control to 8.7%.

No discernable change of neighborhood-level effects was found by comparing the
first two models.

**Model 3**

Model 3 is the full causal model of the study. By adding attribution and expectation of neighbors and attribution and expectation of police to the equation, I assessed the net effect of each of the hypothesized factors on residents’ support for informal social control as well as the possible mediation effect exhibited by attribution and expectation between other hypothesized factors and the outcome variable. As shown in Model 3 of Table 4, both attribution and expectation of neighbors and attribution and expectation of police were positively and significantly related to the outcome variable, independent of all other indicators. In other words, the more residents trust their neighbors and the more confident they feel that other residents will be active in the participation in social control activities, the more strongly they agree on doing the same. The more residents are satisfied with the work of the police in solving neighborhood crime problems, the more supportive they are to take their own part of responsibilities.

In addition, a comparison of the coefficients for other individual-level indicators before and after adding attribution and expectation showed considerable evidence of mediation. Among the objective factors, the coefficients of normative beliefs, residential stability, perceived risk, and interpersonal interaction were all substantially reduced and became rendered marginally significant or nonsignificant. The coefficient for the sense of affiliation was also reduced by 36% (from .240 to .153). The changes
suggest that the effects of those four objective factors and the sense of affiliation on the outcome variable are mediated by the two newly added indicators. By estimating two supplementary models with the last two indicators added one at a time, I found that most of the mediation effects occurred because of the attribution and expectation of neighbors rather than satisfaction with police.

The full model increased the explained individual-level variance of willingness to exert social control to 11.3%. At the neighborhood-level, concentrated disadvantage remains the only indicator that explains the between-group variance in the average value of the support for informal social control.

**Discussion and Conclusion**

Exploring the process by which residents in local neighborhoods make behavioral choices whether or not to contribute to the social control efforts for achieving public order is critical in understanding the social mechanism that constrains crime and meanwhile has rich implication for the study of citizen participation in various community-based crime prevention initiatives. This dissertation represents the first attempt in the field of neighborhood crime study to investigate factors that enhance or inhibit individual residents’ willingness to exert social control. By identifying informal social control behavior as a form of collective action, I established the empirical study on game theory in its explanation of social dilemmas and hypothesized that solutions to social dilemmas would also affect the decision to exert social control; moreover, the decision making is a process where the objective situation affects the final decision
through residents’ subjective interpretation of the situation. In the analysis, I used residents’ support for the participation in informal social control to measure the extent to which they are cooperative in terms of being part of crime prevention efforts. Although the measure was more of residents’ attitude toward informal intervention behavior than their actual willingness to intervene, using such attitude as a proxy for the overt behavioral choice was supported by prior research of attitude-behavior consistency. Overall, the hypotheses were well supported by the empirical evidence. Although the empirical analysis is relatively straightforward, several aspects of the findings are still worth discussing.

First of all, individual differences in sociodemographics and social orientations, although hard to be manipulated, have considerable influence on residents’ decisions to participate in neighborhood social control.

The strength of residents’ normative beliefs is the first individual characteristic hypothesized to promote the willingness to intervene because it reflects individuals’ inherent social dispositions. The direct and positive association that was subsequently found supports the argument in the study of helping behavior and the study of social dilemmas that prosocial disposition or orientation leads to more cooperative behaviors (Penner et al., 2005). The finding helps us understand the role prosocial personality might play in shaping individuals’ behavior, but one can do little about the factor to improve citizen participation in crime prevention efforts because individuals’ social dispositions are formed in the early stage of life and remain quite stable overtime.
Among the several sociodemographic characteristics that I investigated in the analysis, age, education level, and race exhibit strong and direct effects on residents’ support for the participation in intervention behavior. Specifically, the negative association between age and such support is probably the result of older people’s tendency to view themselves as more vulnerable in solving conflicts, and the perceived vulnerability discourages them from engaging in social control behavior. This finding is consistent with prior research on fear of crime, which showed that the fear of crime among older persons leads them to intentionally avoid risky situations and dangerous people (Liska, Sanchirico, & Reed, 1988; Liska & Warner, 1991).

Higher education and membership in racial majority group increase the support for participation in social control. The facilitating effects may result from perceived ability to solve problems. Actually, people with higher socioeconomic status (e.g., racial majority, higher education level, and more income, etc.) have long been reported to be more likely to donate or to do volunteer work than people with low SES (e.g., Bekkers & Graaf, 2005; Brooks, 2005; Healy, 2000; Reed & Selbee, 2001). A possible explanation is that both the actual and perceived capability of doing good for the common interest depends on the position one holds in the group; so does the marginal cost. In the neighborhood context, because of perceived incapability and concern for more immediate needs in life, socioeconomically disadvantaged residents tend to avoid actions that bring unnecessary troubles, especially those that involve possible encounter with formal criminal justice authority even though the action per se is collectively desirable.
The second major implication that flows from the analysis is that individual residents’ subjective state is the key factor determining their subsequent behavioral choice. The effects of situational factors, including perceived risk, residential stability, and interpersonal interaction, on the decision to intervene, are mostly mediated by the sense of affiliation and perceived cooperative consensus. The finding echoes what Schroeder et al. (1995) proposed as “the shift from consideration of the given payoff matrix to consideration to the effective payoff matrix” (p. 192).

Recall a proposition stated previously in game theory that payoff structure is essential to define a situation as the dilemma of choice. Accordingly, the modification of the payoff matrix, which alters the cost and the benefit associated with cooperation and defection, is a theoretically effective way to solve various forms of social dilemmas. For example, by punishing free-riding through enforceable laws, defective behaviors are substantially reduced because the cost to defection is greatly raised; however, changing the given incentive matrix is not feasible under most of the circumstances where sustaining the group interest needs its members’ voluntary contribution. Take the current case—neighborhood crime prevention—as an instance. Residents can choose to participate voluntarily in social control efforts, but they cannot be forced to do so. In other words, we cannot punish noncooperation. Rewarding cooperation by objective incentives under the current situation is not practical either. The payoff is termed “given” because it is fixed and not easy to manipulate.

Then what can we do to encourage cooperation? Fortunately, the current study
indicates that we can do something about the effective (or subjective) payoff by enhancing residents’ sense of affiliation with the neighborhood and strengthening their confidence in the neighbors. Just as mutual trust can easily solve the prisoners’ dilemma game, the perceived cooperative consensus among residents renders perceptions of increased likelihood that a public good will be provided, disregarding the actual cost to the individual participant. The realization of a collective interest is itself a reward to cooperation.

Third, the study also answers the question of which concern is a more serious threat to the exercise of social control, the temptation of free-riding or the fear of exploitation. It is reasonable to believe that players in social dilemma games will be more tempted to free-ride on others’ contribution when they trust each other and expect cooperation from others. If this is the case, then the perceived cooperative consensus among neighbors will actually dissuade residents from making contribution to the maintenance of neighborhood social order. The responsive police will also be a convenient excuse for individual residents to stay away from troubles; however, the evidence from the analysis shows the opposite. Residents are, in fact, more willing to exert social control when they expect other neighbors or police to act responsibly. The finding suggests that instead of considering how to maximize personal benefit and exploiting others’ contribution, residents usually care more about the extent to which they can make an efficacious contribution for achieving the desired collective goal. Without the expected support from others, a rational individual considers his or her effort trivial
and thus refrains from making contribution.

Judging from what has been discussed above, one may safely arrive at the conclusion that suppressing unwillingness to be the only contributor is critical to encourage social control activities. This does not mean, however, that free-riding is not a problem when residents are confronted with the dilemma of achieving public order in the neighborhood. In the analysis, residential stability has been found to increase directly the support for the participation in social control behavior even though the effect is considered marginal. Measured by home ownership, this variable depicts residents’ involvement in a long-term and meaningful process of social exchange with neighbors, which, according to game theory, is a prerequisite for an individual to conquer the temptation of free-riding and to take cooperative action based on reciprocity.

Finally, assuming that the causal relationship found in the analysis is true, what would be the most practical proposal to motivate residents to participate voluntarily in social control activities? Apparently, police can play an important role in the endeavor.

According to the analysis, the perception of whether the police are doing a good job in preventing crime and dealing with people in the neighborhood directly influence the extent to which residents are supportive to promote public order in the neighborhood; that is, residents are more willing to exercise social control on their own when they expect that the police are taking their part of responsibility. Just as the cooperation of neighbors increases perceived efficacy, the efficient work of the police assures the residents that their personal contribution receives strong support from the formal crime
fighting agencies, thus leading residents to believe that the combination of the seemingly isolated efforts will have a measurable impact and help achieve the collective goals. Therefore, instead of complaining about why residents seem indifferent to crime prevention endeavors, the police should first improve their work in law enforcement, communication, and interaction with local residents in the process of enforcing law.

In addition to building congruent relationships between the police and residents, the implementation of certain community policing programs may also elicit more cooperation if the program can help residents reach cooperative consensus by creating an environment in which they can better communicate with one another and discuss the common issues they confront. In this case, the police act as an organizer to unite individual residents who are otherwise loosely connected and assist in establishing a socially cohesive neighborhood. The efforts of police in reducing physical and social disorder in the neighborhood may also contribute to informal social control because according to the analysis residents living in disordered neighborhood are likely to portray both their neighbors and the police as irresponsible, constraining their willingness to exercise social control on their own.

Although the implications and conclusions discussed above seem justified by the findings, any further interpretation should be cautiously made because of several limitations to the study. First, the survey items used to measure the outcome variable depict residents’ attitude toward the participation in social control activities instead of the actual likelihood of making the behavioral choice. Although prior studies on
attitude–behavior relationships have established the validity of attitudinal measures, a clear line still exists between subjective attitude and objective propensity. If possible, future researchers who investigate willingness to intervene should consider replacing the attitudinal measure with a behavioral measure.

Second, the dissertation has investigated only the extent to which residents are willing to exercise social control but has not specified the behavior as direct or indirect intervention. According to Schroeder et al. (1995) decision-making in social dilemmas involves a process by which “the actor assesses the relative costs and benefits of the alternative courses of action that are available” (p. 194); that is, even if the actor decides to act prosocially, he can still choose among several options. In the current research context of neighborhood informal social control, the options for residents include directly confronting the perpetrator or mobilizing formal authorities. The risk for choosing between the options varies. Although it is reasonable to expect that both forms of intervention can be promoted by the same set of factors (i.e., the solutions to social dilemmas), the question of what leads residents to choose between direct and indirect way of intervention needs further analysis.

Finally, the survey adopted in the analysis was designed under social disorganization theory; the questions in the survey were intentionally framed to tap into the key concepts in the process of social disorganization. Fortunately, social disorganization theory and the idea of social dilemmas are compatible; they both attempt to explain the failure of a group of people to achieve a certain collective goal; therefore,
using the survey may plausibly serve the purpose of the current research. To better apply game theory to the study of neighborhood informal social control, however, we may need to adjust the style of the survey questions based on the specific requirement of the theory. For example, questions testing whether the content of communication matters for promoting collective action can be constructed. Respondents can also be asked to evaluate how they think they are capable of solving conflicting situations. Thus, a better examination of the effect of the subjective payoff on individuals’ behavioral outcome in a dilemma situation will be the result.

Despite these limitations, the dissertation is among the very first to deal with neighborhood informal social control with a game theory approach. The findings suggest that factors found to promote cooperation in social dilemma situations also elicit more informal social control behavior in the neighborhood context.
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<table>
<thead>
<tr>
<th></th>
<th>B – Silence (Cooperate)</th>
<th>B – Confessing (Defect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – Silence</td>
<td>Both serve six months</td>
<td>Prisoner A serves ten years</td>
</tr>
<tr>
<td>(Cooperate)</td>
<td></td>
<td>Prisoner B goes free</td>
</tr>
<tr>
<td>A – Confessing</td>
<td>Prisoner A goes free</td>
<td>Both serve two years</td>
</tr>
<tr>
<td>(Defect)</td>
<td>Prisoner B serves ten years</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 1
Payoff Structure of the Two-Person Prisoners’ Dilemma
<table>
<thead>
<tr>
<th>TABLE 2</th>
<th>Payoff Structure of Participation in Informal Social Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Others</strong> – Intervene</td>
</tr>
<tr>
<td><strong>Individual</strong> – Intervene</td>
<td>Public safety</td>
</tr>
<tr>
<td><strong>Individual</strong> – Do nothing</td>
<td>No cost to the individual himself</td>
</tr>
</tbody>
</table>
# TABLE 3
Descriptive Statistics

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Measures</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support for Informal Social Control</td>
<td>The index created by averaging the standardized values of the answers to three survey questions.</td>
<td>0.00</td>
<td>2.18</td>
<td>-4.63-3.49</td>
</tr>
<tr>
<td><strong>Predictors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Individual-level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>(n=2,188)</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Male=1, Female=0</td>
<td>0.33</td>
<td>0.47</td>
<td>0.00-1.00</td>
</tr>
<tr>
<td>Age</td>
<td>Age of respondents (Rs)</td>
<td>45.39</td>
<td>16.74</td>
<td>18.00-90.00</td>
</tr>
<tr>
<td>White</td>
<td>White=1, Non-White=0</td>
<td>0.47</td>
<td>0.50</td>
<td>0.00-1.00</td>
</tr>
<tr>
<td>Education</td>
<td>Less than high school=1, High school=2, Some college-2 yr college degree=3, Bachelor's degree=4, Graduate or professional degree=5</td>
<td>2.66</td>
<td>1.23</td>
<td>1.00-5.00</td>
</tr>
<tr>
<td>Married</td>
<td>Married=1; Other=0</td>
<td>0.31</td>
<td>0.46</td>
<td>0.00-1.00</td>
</tr>
<tr>
<td>Normative beliefs</td>
<td>How strongly do the respondents (Rs) agree on social or legal norms?</td>
<td>3.67</td>
<td>0.48</td>
<td>1.75-4.00</td>
</tr>
<tr>
<td></td>
<td>(averaging across items)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Strongly agree=4, Somewhat agree=3, Somewhat disagree=2, Strongly disagree=1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owned home</td>
<td>Owned=1; Other=0</td>
<td>0.49</td>
<td>0.50</td>
<td>0.00-1.00</td>
</tr>
<tr>
<td>Perceived risk</td>
<td>How frequently do the Rs observe five signs of social disorder in the neighborhood? (averaging across items) (Very often=4, Sometimes=3, Seldom=2, Never=1)</td>
<td>2.25</td>
<td>1.01</td>
<td>1.00-4.00</td>
</tr>
<tr>
<td>Interpersonal Interaction</td>
<td>How frequently do the respondents communicate with their neighbors in five ways? (averaging across items) (About once a day=6, About once a week=5, About once a month=4, Several times a year=3, About once a year=2, Never=1)</td>
<td>2.67</td>
<td>1.27</td>
<td>1.00-6.00</td>
</tr>
<tr>
<td>Predictors</td>
<td>Measures</td>
<td>Mean</td>
<td>SD</td>
<td>Range</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>Affiliation</td>
<td>Index combining (1) total number of relatives and friends Rs have in their neighborhood; (2) times respondents attending neighborhood meeting in last 6 months.</td>
<td>0.00</td>
<td>1.00</td>
<td>-1.00-5.53</td>
</tr>
<tr>
<td>Attribution and expectation of neighbors</td>
<td>Index combining (1) how Rs trust their neighbors; and (2) how likely do Rs think their neighbors would intervene in stopping six types of deviant behavior?</td>
<td>0.00</td>
<td>0.89</td>
<td>-2.89-1.08</td>
</tr>
<tr>
<td>Attribution and expectation of police</td>
<td>How do Rs agree the police (a) play an important role in preventing crime; and (b) are generally helpful? (averaging across items) (Strongly agree=4, Somewhat agree=3, Somewhat disagree=2, Strongly disagree=1)</td>
<td>3.34</td>
<td>0.79</td>
<td>1.00-4.00</td>
</tr>
<tr>
<td>Neighborhood- level (n=66)</td>
<td>The combination of (1) % below poverty, (2) % African-American, (3) % unemployment, (4) % less than high school education, (5) % female-headed household with children under the age of 18</td>
<td>0.00</td>
<td>1.00</td>
<td>-1.80-2.84</td>
</tr>
<tr>
<td>Concentrated disadvantage</td>
<td>% owner occupied housing units</td>
<td>38.19</td>
<td>26.28</td>
<td>0.00-91.02</td>
</tr>
<tr>
<td>Residential stability</td>
<td>Ln[(number of drug arrests in 1999)*1000/population]</td>
<td>2.97</td>
<td>1.29</td>
<td>0.00-5.30</td>
</tr>
</tbody>
</table>
**TABLE 4**
Hierarchical Linear Models of Decisions to Exert Social Control

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$ (SE)</td>
<td>$b$ (SE)</td>
<td>$b$ (SE)</td>
</tr>
<tr>
<td><strong>Intercept</strong></td>
<td>-0.418 (.091)**</td>
<td>-0.399 (.089)**</td>
<td>-0.384 (.089)*</td>
</tr>
<tr>
<td><strong>Individual Level (n=2,188)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OBJECTIVE SITUATION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>0.077 (.096)</td>
<td>0.070 (.095)</td>
<td>0.060 (.093)</td>
</tr>
<tr>
<td>Age</td>
<td>-0.016 (.002)**</td>
<td>-0.019 (.003)**</td>
<td>-0.021 (.003)**</td>
</tr>
<tr>
<td>White</td>
<td>0.391 (.104)**</td>
<td>0.449 (.104)**</td>
<td>0.475 (.102)**</td>
</tr>
<tr>
<td>Education</td>
<td>0.256 (.041)**</td>
<td>0.240 (.040)**</td>
<td>0.253 (.040)**</td>
</tr>
<tr>
<td>Married</td>
<td>0.209 (.102)*</td>
<td>0.170 (.102)*</td>
<td>0.155 (.100)</td>
</tr>
<tr>
<td>Normative Beliefs</td>
<td>0.292 (.098)**</td>
<td>0.259 (.098)**</td>
<td>0.189 (.097)*</td>
</tr>
<tr>
<td>Owned Home</td>
<td>0.302 (.111)**</td>
<td>0.236 (.111)*</td>
<td>0.195 (.109)*</td>
</tr>
<tr>
<td>Perceived Risk</td>
<td>-0.167 (.053)**</td>
<td>-0.179 (.053)**</td>
<td>0.081 (.059)</td>
</tr>
<tr>
<td>Interpersonal Interaction</td>
<td>0.185 (.035)**</td>
<td>0.117 (.037)**</td>
<td>0.043 (.037)</td>
</tr>
<tr>
<td><strong>SUBJECTIVE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affiliation</td>
<td>0.240 (.049)**</td>
<td></td>
<td>0.153 (.049)**</td>
</tr>
<tr>
<td>Attribution and Expectation of Neighbors</td>
<td></td>
<td>0.543 (.064)**</td>
<td></td>
</tr>
<tr>
<td>Attribution and Expectation of Police</td>
<td></td>
<td>0.118 (.059)*</td>
<td></td>
</tr>
<tr>
<td><strong>Neighborhood Level (n=66)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentrated Disadvantage</td>
<td>-0.203 (.075)**</td>
<td>-0.204 (.074)**</td>
<td>-0.149 (.074)*</td>
</tr>
<tr>
<td>Residential Stability</td>
<td>-0.001 (.002)</td>
<td>-0.001 (.003)</td>
<td>-0.002 (.003)</td>
</tr>
<tr>
<td>Drug Arrest Rate</td>
<td>-0.041 (.064)</td>
<td>-0.046 (.063)</td>
<td>-0.060 (.063)</td>
</tr>
</tbody>
</table>

*p < .1  * p < .05  ** p < .01  *** p < .001
FIGURE 1

Descriptive Model of Decision-making Processes in Social Dilemmas

<table>
<thead>
<tr>
<th>OBJECTIVE SITUATION</th>
<th>SUBJECTIVE INTERPRETATION</th>
<th>DECISION MAKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situational Characteristics</td>
<td>Attribution/ Expectation</td>
<td>Decision Making</td>
</tr>
<tr>
<td>Actor/Coactor Characteristics</td>
<td>Affiliation</td>
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</tbody>
</table>