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**Neighborhood social ties and shared expectations for informal social control: Do they**

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**ABSTRACT**

Objectives: Social disorganization states that neighborhood social ties and shared expectations for informal social control are necessary for the *exercise* of informal social control actions. Yet this association is largely assumed rather than empirically examined in the literature. This paper examines the relationship between neighborhood social ties, shared expectations for informal social control and actual parochial and public informal social control actions taken by residents in response to big neighborhood problems.
Methods: Using multi-level logistic regression models, we integrate Australian Bureau of Statistics census data with the Australian Community Capacity Study survey data of 1,310 residents reporting 2,614 significant neighborhood problems across 148 neighborhoods to examine specific informal social control actions taken by residents when faced with neighborhood problems.
Results: We do not find a relationship between shared expectations for informal social control and residents' informal social control actions. Individual social ties, however, do lead to an increase in informal social control actions in response to 'big' neighborhood problems. Residents with strong ties are more likely to engage in public and parochial informal social control actions than those individuals who lack social ties. Yet individuals living in neighborhoods with high levels of social ties are only moderately more likely to engage in parochial informal social control action than those living in areas where these ties are not present. Shared expectations for informal social control are not associated with the likelihood that residents engage in informal social control actions when faced with a significant neighborhood problem.
Conclusions: Neighborhood social ties and shared expectations for informal social control are not unilaterally necessary for the *exercise* of informal social control actions Our results challenge contemporary articulations of social disorganization theory that assume that the availability of neighborhood social ties or expectations for action are associated with residents actually doing something to exercise of informal social control.

**Key Words:** Informal Social Control, Collective Efficacy, Social Ties, Community

**INTRODUCTION**

Social disorganization theory portrays informal social control as the central to the regulation of crime (Bursik and Grasmick, 1993; Kornhauser, 1978; Sampson, Raudenbush and Earls, 1997, Shaw and McKay, 1942). Although criminology offers a "wide ranging and eclectic" conceptualization of informal social control (Bellair and Browning, 2010, p. 500), it is generally agreed that the *exercise* of informal social control involves actions aimed at preventing unwanted behavior (Warner, 2007). These actions can include "gossip", "scolding", "disapproval" and "face-to-face discussion" (Black, 1984a: 5-7), or they might involve working with neighbors to resolve the problem, the surveillance of property, calling the police or levering other local government organizations (Bellair and Browning, 2010; Greenberg and Rohe, 1986; Warner, 2007).

The exercise of informal social control requires the availability of neighborhood social ties and shared expectations for informal social control. Neighborhood social ties include friendship ties, instrumental relationships with neighbors and links to organizations internal or external to the neighborhood. These social ties represent both a reason to act and a resource for action (Bursik and Grasmick, 1993). The presence of shared expectations for informal social control, one of the key drivers of *collective efficacy*, convey a shared norm that residents in the neighborhood will do something when a problem arises. These shared expectations are necessary for triggering action in response to a given problem (Sampson, 2012). As proposed in collective efficacy theory, social ties influence expectations of informal social control and these expectations are then directly associated with crime.

Studies show that both social ties and shared expectations for informal social control are associated with lower neighborhood crime rates (e.g. Authors, 2010a; Bursik and Grasmick,

1993; Morenoff, Sampson, and Raudenbush, 2001; Sampson and Groves, 1989; Sampson, Raudenbush, and Earls, 1997; Sampson and Wikstrom, 2008; Zhang, Messner, and Liu, 2007). Yet it remains unclear whether or not social ties and shared expectations for informal social control influence concrete informal social control actions aimed at reducing crime. In this paper we specifically assess whether or not the *potential* for informal social control (the presence of neighborhood social ties and shared expectations for action) translates into the *exercise* of informal social control action (what residents do in response to a problem). Consistent with Kubrin's (2008) call for conceptual clarity in explaining the maintenance of social order, and as proposed in the systematic model for community regulation (Bursik and Grasmick, 1993), we theoretically and empirically extricate social ties and shared expectations for informal social control from the actual exercise of informal social control actions. Empirically separating the potential for informal social control from the actual exercise of informal social control allows for a more nuanced examination of dominant theories that assume the presence of social ties and shared expectations affect crime rates by activating informal social control actions.

Utilizing census data and survey data of 1,310 residents reporting 2,614 significant neighborhood problems (which include drug problems, public drinking, loitering and youth getting into trouble) across 148 neighborhoods in Brisbane, Australia, we extend the informal social control literature in three important ways. First, we consider the impact of neighborhood ties (Sampson, 2013; Sampson, Morenoff and Earls, 1999) and the density of individuals' own social ties on residents' informal social control actions. Second, we assess whether or not shared expectations for informal social control influence residents' reported informal social control actions, even in neighborhoods characterized by weak ties (Sampson, Raudenbush and Earls, 1997). Third, we examine if shared expectations for informal social control, neighborhood social

Neighborhood social ties and shared expectations for informal social control ties and the density of residents' own social ties similarly or differentially influence different types of action (Bursik and Grasmick, 1993; Warner, 2007).

Contrary to theoretical expectations, we find no evidence that neighborhood social ties or shared expectations for informal social control influence the likelihood that residents engage in informal social control actions. Indeed the neighborhood context has a limited impact on residents' actions. Yet at the individual level, those people with dense social ties are more likely to take action to address big neighborhood problems than individuals with fewer social ties. While we find that social ties are more influential than shared expectations for informal social control for the actual exercise of control for big neighborhood problems, neither operate precisely as anticipated. Our findings challenge dominant theoretical assumptions that social ties and shared expectations affect crime rates by activating informal social control actions.

**LITERATURE REVIEW**

Criminological scholarship consistently demonstrates that crime clusters geographically. Social disorganization theory and its more contemporary reformulations contend that this is because certain neighborhoods provide fertile ground for the development of serious crime (see Bursik & Grasmick, 1993; Hunter, 1985; Kornhauser, 1978; Sampson & Groves, 1989; Sampson et al, 1997; Shaw & McKay, 1942; Skogan, 1986). Bursik and Grasmick (1993) and later, Sampson and his colleagues (Sampson et al., 1997) argue that neighborhood poverty, racial/ethnic concentration and residential instability erode neighborhood social ties and shared expectations for informal social control.

In the social disorganization literature, informal social control is defined as the "development, observance, and enforcement of local norms for appropriate public behavior" (Greenberg and Rohe, 1986: 84). Informal social control is conceptualized as a perception (an

individual or community's capacity to intervene) (Sampson, Raudenbush and Earls, 1997) or a behavior (whether or not someone has acted on neighborhood problem) (Greenberg and Rohe, 1986). Arguably it is what people do, or fail to do, that is important in explaining the variation of crime across neighborhoods. Yet in the absence of social ties and shared expectations, residents are unlikely to exercise informal social control when faced with a neighborhood problem (Bursik and Grasmick, 1993). While we know quite a lot about the link between social ties and the perceptual dimension of informal social control as we note below, there is limited evidence to suggest that neighborhood social ties and shared expectations for information social control influence the exercise of informal social control actions.

*Neighborhood Social Ties and Informal Social Control*

According to Kornhauser (1978), a neighborhood's inability to develop strong social ties is a key predictor of high levels of crime and delinquency. This relationship is also articulated in Bursik and Grasmick's (1993) systemic model of community regulation. Extending social disorganization theory, the systemic model identifies three main types of social ties that are crucial for the exercise of informal social control. First, the presence of kith and kinship ties are viewed as necessary for private control actions. These actions are linked to the socialization of youth and may include direct criticism or the threat of ostracism from the group (Black, 1989; Bursik and Grasmick, 1993). Second, connections among residents without a sentimental attachment are also important for regulating the behavior of individuals (Bursik and Grasmick, 1993; Carr, 2003; Sampson, 2012). Bursik and Grasmick (1993) argue that these instrumental, neighborly relationships are necessary for parochial control actions, which may comprise talking with or working with other residents to find solutions to local problems (Bursik and Grasmick,

1993; Greenberg and Rohe, 1986). Third, links to local or extra-local institutions are connected to public social control actions and are particularly useful for mobilizing the resources of institutions or organizations to respond to particular neighborhood problems (Bursik and Grasmick, 1993; Hunter, 1985).

From this body of research, neighborhood ties are necessary for the exercise of informal social control. In areas with strong neighborhood social ties, scholars contend that residents are more likely to engage in actions to deter or prevent unwanted behavior than areas with weak ties (Bursik, 1999; Bursik and Grasmick, 1993). There is some support for this proposition. Sampson and Groves (1989) found that communities with strong local ties (necessary for parochial social control) and high levels of organizational participation (necessary for public social control) had fewer muggings, robberies and burglaries. Further, Bursik's (1999) study of Oklahoma City residents revealed strong neighborhood ties encouraged conformity and adherence to the law.

Towards the end of the twentieth century the scholarly emphasis on strong social ties for informal social control of crime waned. Studies found that social ties had limited direct effects on crime (Warner and Roundtree, 1997), were not strongly associated with perceived informal social control (Silver and Miller, 2004), and impeded residents' ability to engage in the informal social control of crime (Pattillo, 1998). Although these studies do not directly test whether or not strong neighborhood ties inhibit the exercise of informal social control, they do provide some evidence that strong social ties do not sufficiently explain the neighborhood variation of crime (Morenoff, Sampson, and Raudenbush, 2001; Sampson, Morenoff, and Earls, 1999).

*Shared Expectations for Informal Social Control*

In the late 1990's, Sampson and his colleagues proposed that a "working trust" combined with a shared expectation for informal social control, referred to as *collective efficacy,* accounted for the variation in neighborhood crime (Sampson, 2008: 149; see also Morenoff, Sampson, and Raudenbush, 2001; Sampson, 2002; Sampson, 2006; Sampson, 2012; Sampson, Morenoff, and Earls, 1999; Sampson, Raudenbush, and Earls, 1997). Collective efficacy is conceptualized as a neighborhood social mechanism. Sampson (2008; 2012) argues that collective efficacy is not merely the sum of individual capabilities, but is an emergent contextual process representing a shared belief in the capacity of a neighborhood to actively respond to problems of crime and/or delinquency (Sampson, 2008; 2012). In contrast to the systemic model, neighborhood collective efficacy does not depend upon the existence of strong ties among residents (Sampson, 2008). Indeed Sampson (2012) argues that dense ties are uncommon, and perhaps unnecessary for the informal regulation of crime, because residents are acquaintances at best in modern neighborhoods. Instead he suggests that a 'collective action orientation' is both necessary and sufficient for controlling crime, even in areas where ties are weak (Sampson, 2008; 2012).

The association between collective efficacy and a range of social problems is well documented in the literature. Communities with high levels of collective efficacy have significantly lower levels of violence (Morenoff, Sampson, and Raudenbush, 2001) and burglary (Zhang, Messner, and Liu, 2007). Residents living in collectively efficacious communities report higher self-rated health (Browning and Cagney, 2002; Franzini et al., 2005). The presence of collective efficacy also appears to mediate low parental monitoring as it relates to the timing of first intercourse (Browning, Leventhal, and Brooks-Gunn, 2005), protects against the negative effects of neighborhood deprivation on children's behavior at school entry (Odgers et al., 2009),

and increases the likelihood that women will formally or informally report instances of domestic violence (Browning, 2002). Research links collective efficacy to crime in both developed (Authors, 2010a; Maimon, Browning, and Brooks-Gunn, 2010; Sampson and Wikstrom, 2008), and developing countries (Zhang, Messner, and Liu, 2007). Yet, collective efficacy represents the *potential* for neighborhood informal social control, it does not represent the actual informal social control actions taken by residents (Matsueda, 2013; Warner, 2014). Thus although collective efficacy may be a social mechanism theorized to promote action (Sampson, 2012), it is unclear if collective efficacy actually translates into concrete crime control actions.

*The exercise of informal social control*

Resident actions taken in response to a neighborhood problem are important for crime control (Bursik and Grasmick, 1993; Reynald, 2009; Sampson, 2008). Residents must be available and willing to exercise informal social control (such as contacting the police or directly intervening to stop the incident) when faced with a problem. There are three potential factors that can influence the exercise of informal social control action. First, the collective action literature demonstrates that an individual's own resources are particularly important for determining action. For example, individuals with higher incomes and levels of education, who have a vested stake in the community through length of residence or homeownership are more likely to respond to civic issues than those with limited resources (Kitts, 1999; Oliver, 1984; Rohe and Stegman, 1994; Xiao and McCright, 2014). Second, a given problem must be perceived as significant in order to warrant action. Studies show that rates of civic participation are higher in neighborhoods with greater levels of disorder (Swaroop and Morenoff, 2006) and the form and function of neighborhood participation is a function of the perceived severity of the problem

(Marschall, 2004; see also Perkins et al., 1990). Third, responding to a neighborhood problem can have deleterious consequences for the individual (Horne, 2004; Wells et al., 2006). Individuals are rational actors who weigh the costs and benefits of action and will avoid action, especially action that brings with it a degree of personal risk, if the failure to act does not attract any penalty (Oliver, 1984; see also Horne, 2004; Wells et al., 2006). Thus individuals may be *disinclined* to respond to a particular threat if they receive the public good of living in a low crime environment without taking action (Authors, 2011a).

The type of action residents take in response to a threat also varies across neighborhood contexts and the availability of support. In some neighborhoods residents work together in response to local problems in neighborhoods, especially when strong neighborhood ties are present (Bursik and Grasmick, 1993). In other neighborhoods, residents rely more heavily on police or other formal institutions to deal with local problems (Authors, 2010b; Bursik and Grasmick, 1993; Carr, 2003; Warner, 2007). Yet different actions have different consequences for different neighborhoods: parochial social control addresses a given problem without resulting in formal charges against an offender whereas leveraging agents of formal control to respond to a neighborhood problem can lead to a formal sanction against the offender and increase crime rates (Warner, 2007).

In summary, the extant literature positions social ties and shared expectations for social control action as the drivers for the *exercise* of informal social control. However the literature is silent on how the neighborhood context influences individual informal social control actions. Our paper, therefore, provides the first empirical study of the relationship between social ties, shared expectations of informal social control and the actual exercise of informal social control behavior. Three core questions drive our research. Drawing on social disorganization theory and

Neighborhood social ties and shared expectations for informal social control

the systemic model of community regulation – our first research question asks whether or not residents who perceive big problems in their neighborhood are more likely to engage in informal social control actions when they live in areas with strong social ties or when they report strong social ties with their neighbors (RQ1).

Given theoretical arguments that shared expectations for informal social control influence residents' informal social control actions (Sampson, 2012), we ask if residents who perceive big problems in their neighborhood are more likely to engage in informal social control actions when they live in areas where residents share expectations for informal social control, even in the absence of strong neighborhood ties (RQ2).

Further, as residents may take different actions to address neighborhood problems and as those actions can have different consequences for the neighborhood (Warner, 2007), our third research question asks if social ties and shared expectations for action differentially or similarly influence parochial and public informal social control actions to big problems (RQ3).

## METHODOLOGY

THE AUSTRALIAN COMMUNITY CAPACITY STUDY

This paper draws on survey data from the Australian Community Capacity Study (ACCS). The ACCS is a longitudinal panel study of urban communities in Australia funded by the Australia Research Council (Authors, 2006; Authors, 2012; Authors, 2011a). The goal of the ACCS is to understand and analyze the key social processes associated with the spatial variation of crime across urban communities. Our paper uses the third wave of the ACCS survey in Brisbane collected in 2010: the first wave of the study to include items specifically measuring respondents' actual use of informal social control actions.

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Brisbane is the state capital of Queensland and the third largest city in Australia with a population of approximately 1.9 million people. The Brisbane ACCS sample comprises 148 randomly drawn state neighborhoods (suburbs)[1] with an average residential population of 5,321 people (range from 245 to 20,999)[2]. In the ACCS sample, only 23 percent (N=32) of the neighborhoods have more than 8,000 residents, however to account for variability in neighborhood size we control for population density in all our analyses.

The ACCS Survey Participants

The Wave 3 Brisbane ACCS full survey sample comprises 4,383 respondents (of which 2,228 are part of the longitudinal sample and 2,155 are top up participants). Respondents were randomly selected using random digit dialing (Authors, 2012)[3] and the number of participants in each neighborhood ranged from 13 to 67 respondents (mean number of respondents = 30). Power analyses using Optimal Design Software for multi-level samples were used to determine the number of residents needed per neighborhood to maintain ecometric reliability. The response and cooperation rate for the Brisbane ACCS Wave 3 was 41.81 percent and 59.67 percent respectively[4] (for further information, see Authors, 2012). Trained interviewers utilized

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[1] In Australia, the term "suburb" is used to refer to a feature that in the U.S. would be referred to as a "neighborhood". Suburbs are similar to census tracts in the U.S. context, though in some cases Brisbane suburbs may be larger than census tracts as they are not determined by population. Throughout, we use the more familiar term "neighborhood" to refer to these. The suburbs in Brisbane include those that are adjacent to the main city center and those located in peri-urban areas which have experienced large increases in population growth.

[2] The total number of suburbs in the BSD as of the 2006 census was 429 with a residential population ranging from 15 to 21,001 per suburb. In the U.S., the average size of the census tract is approximately 4,000 inhabitants with a minimum of around 1,200 residents and a maximum of 8,000 residents. In the PHDCN the average size of the neighborhood cluster was 8,000. In later analyses of the PHDCN data, these neighborhood clusters were aggregated up to territorial communities with an average of 11,000 respondents. Sampson (2012: 443) reports that the ecometric properties for these larger territorial communities were "virtually equivalent" to the neighborhood clusters. Nonetheless, we assessed whether the results changed due to the inclusion of these large neighborhoods by estimating models excluding cases with more than 10,000 residents and our results were unchanged.

[3] Unlike the United States, Australian cellphone numbers do not align with regional areas and therefore could not be included in the random digit dialing selection process. Longitudinal participants were contacted on their cellphones if they had previously provided that number as a preferred contact number.

[4] The response and cooperation rates were calculated according to American Association for Public Opinion Research guidelines. The response rate was calculated as *(complete)/(complete + partial complete + unknown*

computer-assisted telephone interviewing to administer the 25 minute survey. Participants were people aged 18 years or over who usually resided in private dwellings with telephones in the selected neighborhoods in Brisbane[5]. Respondents were not paid for their participation.

Variable Information

*Dependent Variable*

The outcome variables in this study are the reported actions that residents took in response to identified neighborhood problems. In the survey respondents were asked if a list of neighborhood problems were: a) not a problem, b) some problem, or c) a big problem. Problems included 1) drugs; 2) public drinking; 3) people loitering or hanging out; 4) people being attacked or harassed because of their skin color, ethnic origin, or religion; 5) vandalism and/or graffiti; 6) traffic problems like speeding or street racing; and 7) young people getting into trouble. As awareness of community problems is shown to influence residents' actions (see Foster-Fishman et al., 2007), respondents acknowledging a particular issue as a big problem were then asked if they had done anything concrete to resolve the problem in the last 12 months[6]. If they answered affirmatively, residents chose the response that *best* categorized their action from the following response options: call police; contact government agency; contact local council; contact community group; discuss with neighbors; intervene directly; and other.

Approximately 30 percent (N=1,310) of the 4,383 ACCS respondents reported a big problem for at least one of the neighborhood problem prompts in the survey (see dependent variable discussion below). About 27 percent of these 1,310 respondents reported 3 or more

problems. Of the 2,614 reported problems, action was taken to resolve the issue approximately 30 percent of the time.

We then coded the types of action residents took to resolve an identified problem. Drawing on the work of Warner (2007), we coded contacting a formal agency (police, government and council) as 'public social control'. Again, aligning our work with Warner (2007) and earlier conceptualizations of informal social control action (Bursik and Grasmick, 1993; Greenberg and Rohe, 1986), contacting a community group, discussing the problem with neighbors and intervening directly were coded as 'parochial social control'.[7] The 'other' responses were recoded as public or parochial social control as appropriate given respondents' description of their actions.[8] Our outcome variables therefore captured whether or not the respondent a) engaged in public informal control actions; b) engaged in parochial informal social control actions; or c) took no action. Two reasons govern our decision to combine responses to the different problems and residents' actions into no action, parochial informal social control action or public social control action. The first relates to analytic power. Even though many people perceive significant problems in their local neighborhood, few people do anything about them. To disaggregate our dependent variable to reflect responses to the specific items that comprise our measure would leave us with too few observations to model. Our second reason is theoretical. The items that represent neighborhood problems in our analyses are those used internationally to measure neighborhood disorder. Although these items represent different neighborhood problems, they form a very reliable scale (individual level $\alpha$ = 0.820;

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[7] To assess whether or not simply discussing the problem is a type of action we constructed an alternative measure that did not include the "discussing the problem with neighbors" action. The results were effectively identical.
[8] If they called the police or any other formal agency like government or local council, we coded that response as a public informal social control. If participants reported they had intervened directly or worked with others in their neighborhood to resolve the problem, we coded their response as parochial informal social control. There were too few instances of these other behaviors to model them as a separate category.

neighborhood α = 0.941) and they strongly load on one factor (eigenvalue 3.39 – factor loadings vary between 0.55 and 0.77). Our decision to use a composite measure of informal social control actions is methodologically robust and theoretically defensible as residents do not distinguish between disorder and more serious forms of crime (Gau and Pratt, 2008) and as acts of disorder and predatory crimes are "manifestations of the same explanatory process" (Sampson and Raudenbush, 1999, p.608).

We nest these various problems within each respondent (given that a respondent can report more than one "problem" in the neighborhood), and respondents are nested within neighborhoods.[9] We account for this nesting of multiple problems for each unique respondent as well as this nesting of respondents within neighborhoods in our analytic strategy as we discuss below[10].

*Neighborhood level independent variables*

For our main analytic models, the neighborhood independent variables include measures of *neighborhood ties* and *expectations for informal social control*. These measures contain items that are identical to those used in the PHDCN. The items that comprise our measure of *neighborhood ties* ask residents to comment on how often you and people in your community (never; rarely; sometimes; often): 1) do favors for each other; 2) visit in each other's homes or on the street; and 3) ask each other advice about personal things such as child rearing or job openings. These items represent parochial social ties and depict what Woldoff (2002, p.97) classifies as "more intense neighbor relationships" or what Sampson (2013) refers to as active

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[9] There is significant variability in this measure across neighborhoods. We estimated a random effects logit model and found that the variability at the neighborhood level was 1.406 (SE=.239) for public social control, and 4.042 (SE=.934) for parochial social control (both significant at $p < .01$).

[10] We also assessed whether including multiple observations for a particular person introduced any bias by estimating an additional model that randomly selected one problem reported by each respondent. These ancillary models had somewhat less statistical power, which is unsurprising given the reduced number of observations. Nonetheless, the results of this alternative specification were quite similar to those presented in Table 1, which is reassuring.

neighborhood ties. The individual level scale reliability for these items is $\alpha = 0.76$ and the neighborhood reliability is $\alpha = 0.88$. Approximately 5 percent of the variation in *neighborhood ties* is between neighborhoods.

Our neighborhood level measure of *expectations for informal social control* includes the same items used to measure informal social control in the original study of collective efficacy (Sampson et al., 1997) (see Appendix 1). They represent what Uchida and his colleagues (2014:2) refer to as "the ability of residents to produce social action and meet common goals". These items are reliable at both the individual ($\alpha = 0.64$) and neighborhood ($\alpha = 0.87$) level. Approximately 14 percent of the variation in this measure is between neighborhoods.

To be consistent with the broader collective efficacy literature, in our ancillary models we employ the full *collective efficacy* scale that comprises a linear combination of *neighborhood social cohesion* and *expectations for informal social control* (see Appendix 1). Again, our measure of collective efficacy comprises items that are identical to previous research (Sampson et al., 1997). The full collective efficacy model is reliable at the individual ($\alpha = 0.75$) and the neighborhood level ($\alpha = 0.93$). Approximately 18 percent of the variation in this measure is between neighborhoods.

Our ancillary models also examined the independent effects of neighborhood social cohesion and expectations of informal social control on informal social control actions. We follow this approach because social cohesion and informal social control are distinct constructs (Bellair and Browning, 2010; Browning, Feinberg, and Dietz 2004; Horne, 2004; Rhineberger-Dunn and Carlson, 2009; Uchida et al., 2014). The scale of social cohesion is reliable at the individual ($\alpha = 0.69$) and neighborhood level ($\alpha = 0.89$). Approximately 12 percent of the variation in social cohesion is between neighborhoods.

The reports of the 1,310 respondents reporting problems do not comprise a random sample, thus to ensure ecometric reliability of our neighborhood level survey items and allow for proper estimates of the neighborhood conditions, we used the full ACCS sample (N=4,383) to construct neighborhood-level measures of neighborhood ties, expectations of informal social control, the original collective efficacy scale and neighborhood social cohesion. All ecological measures were constructed based on factor scores from a maximum likelihood factor analysis.[11] The factor scores are standardized values with mean of 0 and standard deviations of 1. For these neighborhood level measures, we correct for the individual level biases that may influence the assessment of neighborhood characteristics by accounting for the compositional effects in which neighborhood assessments may be systematically affected by the characteristics of respondents in the neighborhood.[12] We estimated fixed effects models in which the outcome measures were the previously computed factor scores, and included indicator variables for all neighborhoods, as well as several individual characteristics that might systematically bias perceptions, and then used the estimated coefficients for each of the neighborhoods from this analysis as unbiased estimates of the amount of the construct in the neighborhood (e.g., cohesion, etc.) in the models.[13]

*Individual level independent variables*

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[11] The factor analysis approach provides specific weights to each of the variables that compose the measure. These weights are analogous to an item response theory (IRT) approach; see Kamata and Bauer (2008) for the analytical proof that these approaches are identical.

[12] We also estimated ancillary models in which we did not adjust the measures for compositional effects. The alternative measures were highly correlated with those with the adjustments, and the results were very similar with no substantive changes.

[13] We included the following individual level characteristics in the model: household income, education level, length of residence in the neighborhood, female, age, homeowner, marital status (single, widowed, divorced, and married as the reference category), presence of children, and speaking only English in the home. Previous research found very high correlations between measures using a frequentist approach, as we do here, and those using a Bayesian approach (see Authors, 2011a, footnote 12 on page 846).

In line with the collective action literature (Oliver, 1984, Bolland and McCallum, 2002; Stern and Fullerton, 2009), we also constructed a measure of residents' own *social ties*. The items that comprise this individual level index are: 1) how many relatives and friends live in your community (none to more than 10); 2) how many people would you say you know in your community (none, few, many, most); 3) how many times have you had contact with a neighbor in the previous week (none, once, twice, three or more). This captures whether individuals who themselves are more socially tied to others in the neighborhood are more likely to engage in such activity compared to those who are less socially tied, regardless of the level of ties in the neighborhood. We also employ an individual level measure of resident's own expectations for informal social control. These are the same items used in the neighborhood scale.

*Socio-Demographic Control Variables*

Drawing on the social disorganization and collective action literatures, we included a number of individual and neighborhood level control variables that may influence informal social control actions. At the neighborhood level we included several measures of substantive interest. From the 2006 census data from the Australian Bureau of Statistics (ABS) we constructed measures of *residential stability* (combining measures of percent owners and percent same households in the last five years by first standardizing them and then computing the mean), *median household income*, the *percent indigenous residents*, and *population density*. Based on responses to the ACCS, we constructed a measure of *ethnic heterogeneity*: this was constructed as a Herfindahl Index measure of diversity based on survey responses to the question about ancestry. We computed the proportion of the survey respondents in five categories: white, Middle Eastern, Asian, African, and other, and then created a Herfindahl index as:

$$H = 1 - \sum_{j=1}^{J} G_j{}^2$$

where G represents the proportion of the population of ethnic group *j* out of *J* groups. Finally, we included a control for the average number of problems observed by persons in the neighborhood, to assess whether this contextual measure impacts social control action (approximately 19 percent of the variation in this scale is between neighborhoods). We constructed this ecological control using the full ACCS sample (N=4,383) using the same approach as we did with all other ecological variables derived from the ACCS survey as discussed previously.

At the individual level we also controlled for a range of individual and household socio-demographic characteristics that are associated with resident action in the collective action literature (Kitts; 1999; Oliver, 1984; Rohe and Stegman, 1994; Xiao and McCright, 2014). These included: *approximate gross household income* (1=less than $20,000, 2=$20,000 to less than $40,000, 3=$40,000 to less than $60,000, 4=$60,000 to less than $80,000, 5=$80,000 or more), *highest level of education* (6=post graduate qualifications, 5=a university or college degree, 4=a trade, technical certificate or diploma, 3=completed senior high school, 2=completed junior high school, 1=primary school, 0=no schooling), the *length of residence in the home* (l=less than 6 months, 2=6 months to less than 12 months, 3=12 months to less than 2 years, 4=2 years to less than 5 years, 5=5 years to less than 10 years, 6=10 years to less than 20 years, 7=20 years or more), *home ownership* (1=own, 0=rent), and the *age* (and age squared) and *gender* (1=female, 0=male) of the respondent. We also included three dummy variables to capture marital status, these were *widow* (1=widow, 0=other), *divorced* (1=divorced, 0=other) and *single* (1=single or never married, 0=other) with married as the reference category, and a measure of the number of *children* in the participant's household. We also included indicators of the six types of problems

observed (discussed previously) to assess whether certain types of problems are more likely to elicit action.

The summary statistics for the variables included in the analyses are presented in the Appendix (Table A2). Given that we standardized our factor score measures based on the complete sample (N=4,383), we can see from Table A2 that the mean social ties and expectations of informal social control values of our analytic sample are .16 and .44 standard deviations below the full sample mean, respectively; the neighborhood versions of these two measures are just .06 and .20 standard deviations below the full sample mean, respectively. There was no evidence of multicollinearity in our models, as all variance inflation factor values were below 3 (Kennedy 1998; Neter et. al. 1996). There was only a modest amount of missing data, and this was accounted for in Stata using the multiple imputation by chained equations approach.[14]  The model standard errors are corrected for the uncertainty accounted for by the imputation (Rubin 1976).

Analytic Approach

We estimated multilevel logistic regression models in which the outcomes were whether the respondent engaged in 1) parochial informal social control; 2) public informal social control; or 3) took no action. We coded the outcomes such that "took no action" was the reference category. The 2,614 problems reported by respondents are at level 1, nested in the 1,310

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[14] The following variables were included in the multiple imputation procedure at the individual level: years of education, household income, owner, length of residence, age, gender, presence of children, immigrant background (middle Eastern, Northeast Asian, Southeast Asian, South-central Asian, Southeast European, African), marital status (married, single, divorced, widowed), perception of violence, perception of disorder, perceived collective efficacy, neighborhood social ties, perceived attachment,  The following variables were included at the neighborhood level from the Census:  percent various immigrant groups (southern European, northern European, middle Eastern, Asian, America, Africa) percent various religious traditions (Christian, Hindu, Islam, Judaism, other) percent various language groups (indigenous, Spanish, Western European), residential instability, median income, unemployment rate, percent with a bachelor's degree, percent single parent households, percent minorities, population density, percent engaging in volunteer behavior, language heterogeneity, ethnic heterogeneity, religious heterogeneity, percent aged 15 to 24.  The following neighborhood variables from the survey respondents were included:  collective efficacy, neighborhood ties, attachment, perceived violence, perceived disorder, average victimization.

respondents at level 2 and the 148 neighborhoods at level 3. The models were estimated using the melogit command in Stata. Given that our outcomes were measured at the problem response level, it is not reasonable to estimate a standard spatial lag model (Morenoff, 2003). Yet we did test for spatial lag effects of the exogenous measures and found no statistically significant effects.[15]

Because the analytic sample only contains respondents who reported at least one "big problem" in the neighborhood, we accounted for a possible selection effect with a Heckman selection model (1979). In this approach, we created a 0/1 indicator of whether the respondent reported any problem, and estimated a logistic model with this as the outcome measure and several demographic measures as covariates.[16] We then computed the inverse Mills ratio, which captures the predicted probability that a respondent would report a big problem, and included this in all of the subsequent models (Bushway, Johnson and Slocum, 2007; Bushway and Smith, 2007). Thus, the results can be interpreted in terms of the entire population, and not just those reporting a big problem.

## RESULTS

We present the results for parochial and public informal social control action, each of which is compared to no action (Table 1).[17] The first measures in the table assess whether certain

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[15] We followed Morenoff's (2003) approach in estimating models including spatial lags of the exogenous variables. Given that the variables were not statistically significant, and the fit of the models were not improved, we do not present those results.

[16] The household measures included in this model were: household income, level of education, length of residence, owner, marital status (widow divorce single), female, age and age squared, presence of children, social ties, social cohesion and expectations for informal social control. Neighborhood-level measures included in the model were: neighborhood social ties, cohesion, expectations for informal social control, median income, residential stability, ethnic heterogeneity, percent Indigenous, population density, neighborhood problems per capita.

[17] We also estimated a logistic model in which the outcome was any type of informal social control action (as opposed to none). The coefficients were essentially averages of the parochial and public social results displayed in Table 1. Given our theoretical interest in distinguishing between parochial and public social control (Warner 2007), the combined results are not particularly insightful.

types of problems are more likely to elicit actions. For example, there is no difference in the likelihood of engaging in informal social control whether a person reports a public drinking problem or a drug problem (the reference category). However, persons reporting a loitering problem are 67 percent more likely (based on the odds ratio) to engage in public social control than persons reporting a drug problem (b=.514). Likewise, persons who report a graffiti/vandalism problem or a traffic problem are more likely to engage in public social control action than persons reporting a drug problem. Persons who report young people getting into trouble are more likely to engage in both public and parochial social control action than those reporting a drug problem.

Turning to the relationship between individual and household level control variables and public informal social control actions, we find that residents with higher household incomes are more likely to engage in parochial informal social control actions when the problem is perceived as big than to do nothing in response to a problem. We see an inverted-u relationship between age and engaging in public informal social control actions that peaks at 56 years of age. Both younger and older respondents are less likely to respond to a perceived big problem by engaging in public informal social control instead of taking no action. With regards to the contextual effects, although the racial composition of the neighborhood does not impact the likelihood of responding to a problem, residents are more likely to engage in public informal social control for big problems in neighborhoods with higher median household income than do nothing.

<<<Table 1 about here>>>

After controlling for the individual and neighborhood level socio-demographic variables, we find that an individual's own social ties impact their likelihood of engaging in informal social control actions for big problems. As evidenced in the collective action literature (Bolland and

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McCallum, 2002; Stern and Fullerton, 2009) and as theorized in the informal social control literature (Bursik and Grasmick, 1993), residents with more social ties are more likely to engage in public or parochial informal social control rather than taking no action  (b=.382 and b=.452 respectively). A one standard deviation increase (.735) in an individual's social ties increases the odds of engaging in public informal social control by 32 percent (exp(.382*.735)=1.32) and parochial informal social control by 40 percent (exp(.452*.735)=1.40). This effect holds even when controlling for the expectations of informal social control of respondents and of the entire neighborhood.

Contrary to our expectations, we find only modest evidence that neighborhood social ties increase the odds that a person will engage in parochial informal social control, and no evidence of an effect on public informal social control action for problems perceived as big. Although a one standard deviation increase in neighborhood social ties increases the odds of engaging in parochial informal social control by 29 percent, this effect is only significant at $p<.10$. Moreover, we find that expectations of informal social control at both the individual and neighborhood level do not increase the odds that a resident will engage in either public or parochial informal social control action for big problems.[18]

*Ancillary Collective Efficacy Models*

To replicate prior studies of collective efficacy and to ensure our findings thus far are not an artifact of the operationalization of our independent variables, we conducted additional ancillary analyses. Consistent with Sampson and his colleagues' (1997) conceptualization of

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[18] We estimated an additional model that did not include the individual-level measure of informal social control expectations to assess whether it is obscuring the neighborhood-level measure.  The results were essentially the same as those in Table 1, suggesting that there is no evidence of obscuring any such effect.  We estimated a model that also excluded the individual- and neighborhood-level measures of social ties, and the neighborhood-level measure of expectations of informal social control remained effectively zero.

collective efficacy, model 1 in Table 2 replaces the measure of expectations of informal social control with one that is additively combined with indicators of cohesion. We see that the individual level measure of social ties remains significantly associated with both public and parochial social control actions for big problems, whereas individual perceptions of collective efficacy have no relationship with either action. Our results show no evidence that neighborhood-level collective efficacy is associated with a greater likelihood to actually engage in concrete public or parochial informal social control actions for big problems. By contrast, the measure of neighborhood social ties is positively associated with parochial social control action for problems perceived as big.

In model 2, we split the collective efficacy measure into measures of cohesion and expectations of informal social control. Again, we find no evidence that these neighborhood measures increase an individual's likelihood to engage in public or parochial informal social control actions for big problems. Notably, an individual's own social ties remains significant in this model. Finally, in model 3 we exclude both the individual and neighborhood measures of social ties in order to ensure that these variables are not "soaking up" the variation in informal social control actions. We see that this is not the case. It is interesting to note that whereas an individual's social ties showed such a strong effect on informal social control actions in the main model, the effect of cohesion in this model was not significant. This means that individuals who perceive more cohesion in the neighborhood are no more likely to engage in either parochial or public informal social control actions for big problems than those who perceive less cohesion. Thus, our results suggest that one's own social ties, and not the level of perceived cohesion, is important for fostering parochial and public informal social control activity in this sample.[19]

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[19] To assess whether there are collinearity issues with these measures, we also estimated models including each of the variables in Table 2 one at a time (along with the remaining control variables). The results were always the

Model 3 provides further evidence of the importance of social ties: in this model we do not account for neighborhood social ties, yet residents' individual expectations of informal social control are significantly associated with a greater likelihood to engage in public informal social control actions rather than taking no action. However, as we saw in Table 1, the size of this coefficient was about 30 percent smaller, and non-significant, when accounting for social ties.

 In summary, our data do not show a relationship between collective efficacy and evidence of concrete social control actions taken to address perceived significant neighborhood problems.

<<<Table 2 about here>>>

In ancillary models, we assessed whether or not the neighborhood-level measure of collective efficacy showed its expected effect with no control variables in the model.  In a model with just the individual-level demographic variables, there was a significant positive relationship between neighborhood-level collective efficacy and informal social control action. This effect was reduced to non-significance as soon as we included any other neighborhood-level variables in the model, or any of the individual-level measures of perceptions.

*Sensitivity analyses 1: models split by level of neighborhood collective efficacy*

A possible limitation of our data is that residents only reported on their informal social control behavior if they reported perceiving the issue as being a big problem. In high collective efficacy neighborhoods residents may be less likely to report such big problems as such problems may not exist (Uchida et al., 2014). This implies we would have limited ability to generalize to high collective efficacy neighborhoods due to our reduced sample size and variability in the collective efficacy measure (see Sampson, 2013: 19). To assess this, we split

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same.  Thus, despite the fact that the measures of social ties and cohesion are correlated .36 at the individual level and .66 at the neighborhood level, the results are not an artifact of any undue collinearity.

the *entire* ACCS sample of 4,383 respondents (not just our reduced analytic sample of N = 1,310 residents reporting big problems) into neighborhoods with high or low collective efficacy (above or below the mean on the standardized collective efficacy scale). We estimated our main model on each of these sub-samples separately, and present the results in Table 3. Although this does not address the somewhat limited variability in the collective efficacy measure in our analytic sample, it is nonetheless the case that although respondents who perceive problems in their neighborhood are disproportionately clustered in low collective efficacy neighborhoods. However, nearly one-third of the sample that perceives neighborhood problems live in neighborhoods with above average collective efficacy. This provides evidence that our generalizations are not limited to only low collective efficacy neighborhoods (see also Tables A3 and A4 in the Appendix for a further breakdown of these variables by neighborhood collective efficacy quintiles).

<<<Table 3 about here>>>

Our findings show that the effect of an individual's social ties on informal social control behavior is generally consistent regardless of the level of neighborhood collective efficacy. In fact, a joint significance test of all variables except the reported problems variables showed no significant differences across below- or above-average collective efficacy neighborhoods.[20] Only the reported problems variables showed some modest differences across subsamples. The minimal differences across these subsamples imply that these processes may not differ very much across high and low collective efficacy neighborhoods.

*Sensitivity analyses 2: models aggregating to small units*

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[20] We assessed this by estimating models on the complete sample in which we included an indicator for high collective efficacy neighborhoods and interactions of this variable with all other variables in the model. A joint significance test was conducted to assess significance of this set of interaction variables ($\chi^2$=25.1, $df$=21, $p$=.20 for parochial social control; $\chi^2$=30.5, $df$=21, $p$=.08 for public social control.

Finally, given that some research has suggested that smaller units may be a more appropriate measure of various neighborhood processes (Weisburd, Groff and Yang, 2104; Weisburd, Groff and Yang, 2012), we estimated models in which all neighborhood measures were aggregated to collection districts. Collection districts contain approximately 220 dwellings, and thus are relatively small units comparable to blocks in the U.S. There are 1191 collection districts nested within the 148 neighborhoods that comprise the ACCS sample. A limitation with this approach is that we have fewer respondents per collection district, which pose challenges for the reliability of these measures. We estimated these models on those collection districts with at least four survey respondents, and found that the results were quite similar to those presented in Tables 1 and 2 (available upon request). While none of our main results were altered in these ancillary models: the effect of social ties at the individual level was actually somewhat stronger, and the effect of neighborhood social ties became significant at $p < .05$ for parochial social control action for big problems. Importantly we find no evidence in these additional models that neighborhood-level expectations of informal social control were associated with more social control behavior.

## CONCLUSION

Informal social control is a key theoretical concept in social disorganization theory, systemic reformulations of social disorganization, and more recently collective efficacy theory. Despite the central, theoretical significance of informal social control, our paper addresses two significant gaps in the literature. First, we explore the neighborhood and individual level factors that bring about concrete, informal social control actions for big problems. Second, we

empirically assess whether or not social ties and shared expectations for informal social control translate into actual informal social control actions for problems perceived as big.

Our paper offers three main findings: First we find that residents are more likely to engage in informal social control actions for significant problems when they live in neighborhoods with social ties than when they live in neighborhoods with weak social ties and when residents themselves report dense personal social ties. These results support the theoretical tenets of the systemic model of community regulation (Bursik and Grasmick, 1993). Second, we find that there is no significant association between shared expectations for informal social control and self-reported informal social control actions for problems perceived as significant. Regardless of how we measure shared expectations for informal social control, these expectations are not significantly associated with reported actions to resolve big neighborhood problems. Our third finding shows that neighborhood expectations for informal social control are not associated with parochial informal social control action and are only weakly associated with the likelihood that residents engage in public informal social control action for big problems. Strong social ties, however, moderately increase the likelihood that residents would engage in parochial social control actions when faced with a significant neighborhood problem than when social ties are weak. We also find that residents with strong social ties have an increased likelihood of engaging in parochial and public informal social control actions than residents reporting weak social ties. Collectively these results indicate that residents without access to strong social ties are unlikely to engage in public or parochial informal social control actions when problems are viewed as significant.

The enduring importance of social ties for resolving neighborhood problems, especially at the individual level, is evident in our study. Contrary to studies that show the proximate role of

collective efficacy in rescinding neighborhood problems (Sampson, 2012; Sampson et al., 1997; 1999), we did not find a relationship between this potential, or 'readiness' for informal social control does and concrete actions taken to deal with big neighborhood problems. The exercise of informal social control, we find, requires strong connections amongst neighbors and these ties matter a great deal for precipitating both public and parochial informal social control actions, even when those actions might pose some personal risk (see also Bursik and Grasmick, 1993; Stern and Fullerton, 2009). We conclude, therefore, that shared perceptions of a neighborhood's capacity to respond to problems are less important for influencing residents' informal social control actions for big problems than the density of an individual's own personal ties coupled with the presence of neighborhood social ties.

Our study also shows that shared expectations for informal social control might actually inhibit action being taken in response to significant neighborhood problems. We find that residents are unlikely to leverage public informal social control actions, particularly in communities with high expectations for action. This is consistent with the collective action literature which suggests that individuals weigh the costs and benefits of action before they act (Oliver, 1984). Residents who believe others will do the heavy lifting may be less inclined to act (Kerr, 1983:819; see also Orbell and Dawes, 1981; Olson, 1965). As Oliver (1984:607) notes, "rational individuals take account of the likelihood that the collective good will be provided through the efforts of others, and are less likely to contribute the more they believe others will." Future research should therefore also assess the degree to which individuals in the neighborhood have witnessed others responding to local problems to examine this association more closely. Similarly, as Warner and Burchfield (2011) find, residents may simply misperceive social norms, which in turn affects their own decisions to exercise informal social control. More research is

needed to explore how individuals actually behave under conditions of imperfect assessments of neighborhood capacity.

Our findings indicate a possible threshold effect of expectations for action on residents' exercise of informal social control. Our dependent variable was constructed as a measure of the concrete actions taken by people when a given problem is perceived as a big problem. While evidence suggests that viewing a problem as a 'big' problem more likely to evoke action (see Foster-Fishman et al., 2007; Marschall, 2004; Perkins et al., 1990; Swaroop and Morenoff, 2006), if the problem is seen as too big, residents may feel too overwhelmed to respond or feel there is little they can do to resolve the issue. Therefore, it is possible that shared expectations for informal social control may have a threshold effect on resident action. In this study, we were unable to distinguish whether or not expectations for action may differentially evoke action depending on the perceived severity of the problem: only those respondents who acknowledged a problem as "big" were asked to report what they had done to resolve it.

The neighborhood level variables in our study seem to have a lesser impact on residents' action when compared to individual and household characteristics. Instead, we find that an individuals' density of social ties have the greatest impact on residents' informal social control actions for big problems. This holds true regardless of whether or not we consider the neighborhood as a larger unit such as a state suburb or a smaller unit with only 200 households. This challenges social disorganization theory which privileges the neighborhood context and its influence on informal social control. However, we recognize that we have not explored "the micro-social control" of unwanted behavior (Bursik, 1999, p. 85) and whether or not this leads to macro changes in crime (Matsueda, 2013). Linking micro-place dynamics with broader

Neighborhood social ties and shared expectations for informal social control

community regulatory processes is left unaddressed in research so far and remains an important area for further research.

We also recognize that much of the informal social control scholarship is U.S. based. It is possible, therefore, that our findings are contextualized by the Australian setting. Yet we know that the relationship between collective efficacy and crime is found in countries all over the world, including Australia (Authors, 2010; Sampson and Wikstrom, 2008; Wikstrom et al., 2012; Zhang, Messner, and Liu, 2007). Sampson (2006:161) indeed argues that "…nothing in the logic of collective efficacy is necessarily limited to specific cities, the United States or any country for that matter". Australia is a typical western nation with established political and economic infrastructure and is closely linked with the US, Canada, Germany, the United Kingdom and other OECD countries in its trade linkages, legal structures, technological advances and economic cycles (Otto, Voss and Willard, 2001). Nevertheless, there could be cultural differences in the relationship between expectations for action and actual informal social control behaviors that may be uncovered through case studies.

Finally we recognize that our study focuses on the cross-sectional relationship between neighborhood social ties, expectations for informal social control, collective efficacy, and informal social control actions (for exceptions see Authors 2011a and Markowitz et al., 2001). With no measures of informal social control actions in the previous two waves of the ACCS, we are limited to a cross-sectional examination of Wave 3 data in this paper. We know that assessing how social processes unfold over time and exploring the reciprocal influences from one time point to another (see also Sampson, 2013) are central to both the social disorganization theory and the more contemporary reformulations of this approach (including collective efficacy theory). This may be the case, however, several longitudinal studies of neighborhood cohesion

and collective efficacy show remarkable stability in these concepts across time (Authors, 2011a; Authors, in press; Markowitz et al., 2001 Sampson, 2012). Thus although our cross sectional design may produce similar results as a longitudinal study, we simply do not know how informal social control, as a process, unfolds. Nor do we know what comes first – social ties, expectations for informal social control or the informal social control actions themselves. As Ohmer (2007) and Greenberg, Rowe, and Williams (1982) note: it is entirely possible that residents' actions may lead to shared expectations for informal social control. Teasing out the distinct processes and actions that affect crime over time remains a key priority for future research.

Overall, our research demonstrates the enduring importance of social ties, most specifically those ties at the individual level for responding to significant neighborhood problems. Bursik and Grasmick's (1993: 39) systemic model of community regulation states that social ties are necessary for informal social control and that while the exercise of this control creates norms that may deter future incidents, social ties directly impact what residents do when faced with a problem. In contrast to much of the collective efficacy literature, we find limited evidence that collectively efficacious communities generate task specific actions related to crime control for big neighborhood problems. A more a nuanced understanding is needed, therefore, to better understand how expectations for action influence what citizens do to prevent crime in their neighborhood.

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# Tables

Table 1.  Multilevel logit models predicting various actions to address problems in neighborhood. Reference category is no action.

| | Public social control | | | | Parochial social control | | | (a) |
|---|---|---|---|---|---|---|---|---|
| ***Reported problem (reference is neighborhood drugs problem)*** | | OR | | | | OR | | |
| Public drinking problem | 0.277 | 1.319 | | | 0.363 | 1.437 | | |
| | (1.12) | | | | (1.10) | | | |
| People loitering problem | 0.514 | 1.672 | * | | 0.000 | 1.000 | | |
| | (2.12) | | | | (1.18) | | | |
| Ethnic harassment problem | -0.141 | 0.868 | | | 1.080 | 2.946 | * | ** |
| | -(0.30) | | | | (2.35) | | | |
| Graffiti/vandalism problem | 0.820 | 2.271 | ** | | 0.347 | 1.415 | | |
| | (4.16) | | | | (1.20) | | | |
| Traffic problem | 1.251 | 3.493 | ** | | 0.038 | 1.039 | | ** |
| | (7.38) | | | | (0.14) | | | |
| Young people getting into trouble problem | 0.974 | 2.649 | ** | | 1.140 | 3.127 | ** | † |
| | (4.07) | | | | (3.64) | | | |
| ***Individual and household measures*** | | | | | | | | |
| Household income | 0.038 | 1.039 | | | 0.142 | 1.152 | * | * |
| | (1.03) | | | | (2.55) | | | |
| Education | 0.068 | 1.070 | | | 0.073 | 1.076 | | |
| | (1.50) | | | | (1.05) | | | |
| Length of residence | 0.077 | 1.080 | | | 0.106 | 1.112 | | |
| | (1.63) | | | | (1.47) | | | |
| Owner | 0.238 | 1.268 | | | -0.093 | 0.911 | | |
| | (1.48) | | | | -(0.39) | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Widow | -0.158 | 0.854 | | | -0.050 | 0.951 | |
| | -(0.59) | | | | -(0.11) | | |
| Divorced | -0.029 | 0.971 | | | 0.111 | 1.117 | |
| | -(0.14) | | | | (0.37) | | |
| Single | 0.127 | 1.136 | | | -0.200 | 0.819 | |
| | (0.67) | | | | -(0.71) | | |
| Female | -0.068 | 0.934 | | | -0.153 | 0.858 | |
| | -(0.58) | | | | -(0.85) | | |
| Age | 0.082 | 1.086 | ** | | 0.041 | 1.042 | |
| | (3.42) | | | | (1.15) | | |
| Age squared (/100) | -0.073 | 0.929 | ** | | -0.042 | 0.959 | |
| | -(3.03) | | | | -(1.13) | | |
| Children | 0.031 | 1.031 | | | -0.118 | 0.889 | |
| | (0.59) | | | | -(1.40) | | |
| Inverse Mills ratio | -0.232 | 0.793 | | | -0.854 | 0.426 | * |
| | -(0.92) | | | | -(2.41) | | |
| Social ties | 0.382 | 1.466 | ** | | 0.452 | 1.572 | ** |
| | (4.74) | | | | (3.64) | | |
| Perceived expectations for informal social control | 0.157 | 1.170 | † | | 0.120 | 1.128 | |
| | (1.87) | | | | (0.98) | | |
| *Neighborhood measures* | | | | | | | |
| Neighborhood social ties | 0.185 | 1.203 | | | 1.296 | 3.655 | † |
| | (0.34) | | | | (1.77) | | |
| Expectations for informal social control | -0.730 | 0.482 | | | -0.483 | 0.617 | |
| | -(1.33) | | | | -(0.64) | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Median income (1,000's) | 0.985 | 2.678 | * | | -0.319 | 0.727 | |
| | (2.15) | | | | -(0.48) | | |
| Residential stability | 0.155 | 1.167 | | | -0.467 | 0.627 | |
| | (0.74) | | | | -(1.49) | | |
| Ethnic heterogeneity | -0.341 | 0.711 | | | -0.439 | 0.644 | |
| | -(0.62) | | | | -(0.56) | | |
| Percent Indigenous | 0.093 | 1.098 | | | -0.028 | 0.972 | |
| | (1.01) | | | | -(0.21) | | |
| Population density (1,000's) | -0.115 | 0.891 | | | 0.117 | 1.125 | |
| | -(0.84) | | | | (0.59) | | |
| Community problems (average) | -0.831 | 0.436 | † | | 0.039 | 1.039 | |
| | -(1.73) | | | | (0.06) | | |
| Percent single parent households | -0.001 | 0.999 | | | -3.120 | 0.044 | |
| | (0.00) | | | | -(0.55) | | |
| Percent young adults | -0.259 | 0.772 | | | -1.493 | 0.225 | |
| | -(0.06) | | | | -(0.25) | | |
| Intercept | -4.423 | 0.012 | ** | | -2.564 | 0.077 | |
| | -(3.09) | | | | -(1.28) | | |
| Level 2 variance explained | 0.266 | | | | 0.259 | | |
| | | | | | | | |

*Note: ** p < .01; * p < .05; † p < .1. OR= odds ratios. T-values in parentheses. Pseudo r-squares are from logit models for single outcome. N is 1,310 respondents reporting on 2,614 problems*

*(a): significance test between public and parochial social control*

Table 2.  Multilevel logit models predicting action to address problems in neighborhood. Reference category is no action

| | Model 1 | | | | Model 2 | | | | Model 3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Public social control | | Parochial social control | | Public social control | | Parochial social control | | Public social control | | Parochial social control | |
| *Individual and household measures* | | OR | | OR | | OR | | OR | | OR | | OR |
| Social ties | 0.406 | 1.501 ** | 0.473 | 1.605 ** | 0.428 | 1.534 ** | 0.492 | 1.636 ** | | | | |
| | (4.70) | | (3.61) | | (5.07) | | (3.84) | | | | | |
| Perceived collective efficacy | 0.001 | 1.001 | 0.000 | 1.000 | | | | | | | | |
| | (0.03) | | (0.00) | | | | | | | | | |
| Perceived social cohesion | | | | | -0.171 | 0.843 † | -0.155 | 0.857 | -0.035 | 0.966 | -0.048 | 0.953 |
| | | | | | -(1.81) | | -(1.16) | | -(0.39) | | -(0.38) | |
| Perceived expectations for informal social control | | | | | 0.148 | 1.159 † | 0.108 | 1.114 | 0.217 | 1.242 ** | 0.173 | 1.189 |
| | | | | | (1.76) | | (0.88) | | (2.64) | | (1.44) | |
| *Neighborhood measures* | | | | | | | | | | | | |
| Neighborhood social ties | 0.278 | 1.320 | 1.499 | 4.478 † | 0.190 | 1.209 | 1.518 | 4.562 † | | | | |
| | (0.46) | | (1.87) | | (0.31) | | (1.87) | | | | | |
| Collective efficacy | -0.369 | 0.691 | -0.351 | 0.704 | | | | | | | | |
| | -(1.16) | | -(0.81) | | | | | | | | | |
| Social cohesion | | | | | -0.151 | 0.860 | -0.618 | 0.539 | -0.020 | 0.980 | 0.205 | 1.227 |
| | | | | | -(0.22) | | -(0.68) | | -(0.03) | | (0.25) | |
| Expectations for informal social control | | | | | -0.602 | 0.548 | -0.079 | 0.924 | -0.541 | 0.582 | 0.154 | 1.166 |
| | | | | | -(0.92) | | -(0.09) | | -(0.86) | | (0.17) | |
| Level 2 variance explained | 0.280 | | 0.254 | | 0.271 | | 0.268 | | 0.330 | | 0.276 | |

*Note: ** p < .01; * p < .05; † p < .1.  OR=odds ratios.  T-values in parentheses.  Models include all control variables shown in Table 1. N is 1,310 respondents reporting on 2,614 problems*

Table 3.  Multilevel logit models predicting action to address problems in neighborhood. Samples split by level of collective efficacy in neighborhood

| | Low collective efficacy neighborhood | | | | High collective efficacy neighborhood | | | |
|---|---|---|---|---|---|---|---|---|
| | Public social control | | Parochial social control | | Public social control | | Parochial social control | |
| ***Reported problem (reference is neighborhood drugs problem)*** | | OR | | OR | | OR | | OR |
| Public drinking problem | 0.194 | 1.214 | 0.227 | 1.255 | 0.098 | 1.102 | 0.568 | 1.764 ** |
| | (0.66) | | (0.57) | | (0.73) | | (3.26) | |
| People loitering problem | 0.514 | 1.672 † | 0.000 | 1.000 | 0.230 | 1.259 † | 0.296 | 1.344 |
| | (1.86) | | (0.82) | | (1.79) | | (1.60) | |
| Ethnic harassment problem | -0.118 | 0.889 | 1.285 | 3.616 * | 0.073 | 1.076 | 1.169 | 3.218 ** |
| | -(0.22) | | (2.51) | | (0.31) | | (4.82) | |
| Graffiti/vandalism problem | 0.718 | 2.051 ** | 0.570 | 1.769 † | 0.887 | 2.427 ** | 0.236 | 1.266 |
| | (3.16) | | (1.81) | | (8.66) | | (1.51) | |
| Traffic problem | 1.261 | 3.530 ** | -0.016 | 0.984 | 1.265 | 3.543 ** | -0.248 | 0.780 † |
| | (6.50) | | -(0.05) | | (14.45) | | -(1.74) | |
| Young people getting into trouble problem | 0.725 | 2.064 ** | 1.167 | 3.213 ** | 0.698 | 2.010 ** | 1.169 | 3.218 ** |
| | (2.60) | | (3.31) | | (5.59) | | (7.17) | |
| ***Individual and household measures*** | | | | | | | | |
| Household income | 0.091 | 1.096 * | 0.146 | 1.157 * | 0.018 | 1.018 | 0.233 | 1.262 ** |
| | (2.00) | | (2.17) | | (1.00) | | (8.57) | |
| Education | 0.052 | 1.053 | 0.054 | 1.055 | 0.064 | 1.066 ** | 0.036 | 1.037 |
| | (0.98) | | (0.67) | | (2.62) | | (0.98) | |
| Length of residence | 0.088 | 1.092 | 0.096 | 1.100 | 0.106 | 1.112 ** | -0.014 | 0.986 |
| | (1.62) | | (1.15) | | (4.00) | | -(0.33) | |

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| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Owner | 0.134 | 1.144 | | -0.060 | 0.942 | | 0.362 | 1.436 | ** | -0.310 | 0.733 | * |
| | (0.75) | | | -(0.23) | | | (4.16) | | | -(2.43) | | |
| Widow | -0.234 | 0.791 | | 0.227 | 1.255 | | -0.343 | 0.710 | * | -0.090 | 0.914 | |
| | -(0.73) | | | (0.49) | | | -(2.43) | | | -(0.37) | | |
| Divorced | -0.017 | 0.983 | | 0.148 | 1.160 | | -0.092 | 0.912 | | -0.199 | 0.819 | |
| | -(0.08) | | | (0.46) | | | -(0.85) | | | -(1.20) | | |
| Single | 0.294 | 1.342 | | -0.253 | 0.777 | | 0.169 | 1.184 | † | -0.034 | 0.967 | |
| | (1.37) | | | -(0.76) | | | (1.65) | | | -(0.23) | | |
| Female | -0.095 | 0.910 | | -0.263 | 0.769 | | -0.183 | 0.833 | ** | 0.146 | 1.157 | |
| | -(0.69) | | | -(1.26) | | | -(2.96) | | | (1.50) | | |
| Age | 0.101 | 1.106 | ** | 0.060 | 1.062 | | 0.064 | 1.066 | ** | 0.100 | 1.105 | ** |
| | (3.60) | | | (1.47) | | | (4.94) | | | (5.00) | | |
| Age squared (/100) | -0.092 | 0.913 | ** | -0.056 | 0.945 | | -0.056 | 0.945 | ** | -0.085 | 0.918 | ** |
| | -(3.22) | | | -(1.35) | | | -(4.37) | | | -(4.21) | | |
| Children | 0.081 | 1.085 | | -0.006 | 0.994 | | 0.055 | 1.056 | † | -0.033 | 0.968 | |
| | (1.30) | | | -(0.06) | | | (1.95) | | | -(0.75) | | |
| Inverse Mills ratio | -0.078 | 0.925 | | -0.827 | 0.437 | † | -0.197 | 0.821 | | -0.805 | 0.447 | ** |
| | -(0.25) | | | -(1.93) | | | -(1.49) | | | -(4.30) | | |
| Social ties | 0.396 | 1.486 | ** | 0.511 | 1.666 | ** | 0.463 | 1.589 | ** | 0.392 | 1.479 | ** |
| | (4.17) | | | (3.57) | | | (10.73) | | | (5.80) | | |
| Perceived expectations for informal social control | 0.095 | 1.100 | | 0.115 | 1.122 | | 0.146 | 1.157 | ** | 0.047 | 1.048 | |
| | (0.98) | | | (0.81) | | | (3.33) | | | (0.70) | | |
| *Neighborhood measures* | | | | | | | | | | | | |
| Neighborhood social ties | 0.097 | 1.102 | | 1.499 | 4.476 | † | 0.255 | 1.291 | | 1.728 | 5.627 | |
| | (0.15) | | | (1.68) | | | (0.33) | | | (1.22) | | |
| Expectations for informal social control | 0.398 | 1.488 | | -0.358 | 0.699 | | -1.418 | 0.242 | † | -1.141 | 0.320 | |
| | (0.51) | | | -(0.34) | | | -(1.86) | | | -(0.80) | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Median income (1,000's) | 1.823 | 6.191 | * | -0.645 | 0.525 | | 1.265 | 3.544 | * | -1.210 | 0.298 |
| | (2.52) | | | -(0.66) | | | (2.23) | | | -(1.09) | |
| Residential stability | -0.088 | 0.915 | | -0.205 | 0.814 | | 0.444 | 1.558 | | -0.899 | 0.407 |
| | -(0.34) | | | -(0.53) | | | (1.50) | | | -(1.50) | |
| Ethnic heterogeneity | 0.665 | 1.944 | | -0.335 | 0.715 | | 0.117 | 1.124 | | 0.832 | 2.298 |
| | (1.03) | | | -(0.36) | | | (0.14) | | | (0.53) | |
| Percent Indigenous | 0.158 | 1.171 | | 0.005 | 1.005 | | 0.134 | 1.143 | | -0.102 | 0.903 |
| | (1.40) | | | (0.03) | | | (1.02) | | | -(0.42) | |
| Population density (1,000's) | -0.133 | 0.875 | | 0.123 | 1.131 | | -0.133 | 0.875 | | 0.108 | 1.114 |
| | -(0.82) | | | (0.55) | | | -(0.68) | | | (0.29) | |
| Community problems (average) | -0.977 | 0.376 | † | -0.091 | 0.913 | | -1.405 | 0.245 | ** | 0.722 | 2.059 | † |
| | -(1.75) | | | -(0.11) | | | -(5.24) | | | (1.82) | |
| Percent single parent households | 6.156 | 471.477 | | -4.309 | 0.013 | | 1.565 | 4.783 | | 1.203 | 3.329 |
| | (1.32) | | | -(0.66) | | | (0.28) | | | (0.11) | |
| Percent young adults | 4.137 | 62.610 | | 2.075 | 7.966 | | -4.253 | 0.014 | | -9.354 | 0.000 |
| | (0.76) | | | (0.27) | | | -(0.79) | | | -(0.86) | |
| Intercept | -7.314 | 0.001 | ** | -3.106 | 0.045 | | -3.599 | 0.027 | ** | -5.097 | 0.006 | * |
| | -(3.91) | | | -(1.26) | | | -(2.69) | | | -(2.12) | |
| Level 2 variance explained | 0.428 | | | 0.714 | | | 0.422 | | | 0.755 | |

*Note: ** p < .01; * p < .05; † p < .1.  OR=Odds Ratios. T-values in parentheses.  Pseudo r-squares are from logit models for single outcome. N is 1,310 respondents reporting on 2,614 problems*

**Appendices**

Table A.1. Item description for independent variables

| | |
|---|---|
| Expectations for Action | • If a group of community children were skipping school and hanging around on a street corner, how likely is it that people in your community would do something about it?<br>• If some children were spray painting graffiti on a local building, how likely is it that people in your community would do something about it?<br>• If a child was showing disrespect to an adult, how likely is it that people in your community would scold that child?<br>• Suppose that because of budget cuts the fire station closest to your home was going to be closed down. How likely is it that community residents would organize to try and do something to keep the fire station open?<br>• If there was a fight in front of your house and someone was being beaten or threatened, how likely is it that people in your community would break it up? |
| Active Ties | • How often do you and people in your community do favors for each other?<br>• How often do you and people in your community visit in each other's homes or in the street?<br>• How often do you and people in your community ask each other advice about personal things such as child rearing or job openings? |
| Social Cohesion | • This is a close-knit community.<br>• People in this community can be trusted.<br>• People in this community do not share the same values |
| Collective Efficacy | • All items from the expectations for action and social cohesion indices. |
| Individual Social Ties | • How many relatives and friends live in your community (none to more than 10)<br>• How many people would you say you know in your community (none, few, many, most);<br>• How many times have you had contact with a neighbor in the previous week (none, once, twice, three or more). |
| Neighborhood Disorder | In your neighborhood how much of a problem is:<br>   • Drug use<br>   • Public Drinking<br>   • Loitering<br>   • Young people getting into trouble<br>   • Traffic problems<br>   • People getting harassed because of their religion or skin color<br>   • Graffiti |

Table A2. Summary statistics

| Dependent variables | Mean | SD | Min | Max |
|---|---|---|---|---|
| Public informal social control actions | 0.206 | 0.404 | 0 | 1 |
| Parochial informal social control actions | 0.067 | 0.251 | 0 | 1 |
| **Reported problem** | | | | |
| Drugs problem | 20.3% | | | |
| Public drinking problem | 10.7% | | 0 | 1 |
| People loitering problem | 10.7% | | 0 | 1 |
| Ethnic harassment problem | 4.1% | | 0 | 1 |
| Graffiti/vandalism problem | 15.5% | | 0 | 1 |
| Traffic problem | 28.6% | | 0 | 1 |
| Young people getting into trouble problem | 10.1% | | 0 | 1 |
| **Household-level variables** | | | | |
| Social ties | -0.153 | 0.735 | -1.721 | 1.455 |
| Perceived social cohesion | -0.598 | 1.059 | -3.006 | 1.512 |
| Perceived expectations for informal social control | -0.435 | 0.909 | -2.752 | 1.417 |
| Perceived collective efficacy | -0.950 | 1.730 | -6.130 | 2.746 |
| Household income | 3.921 | 2.077 | 1 | 8 |
| Education | 3.499 | 1.338 | 0 | 6 |
| Length of residence | 5.096 | 1.512 | 0.90864 | 8 |
| Owner | 73.7% | | 0 | 1 |
| Widow | 6.4% | | 0 | 1 |
| Divorced | 10.1% | | 0 | 1 |
| Single | 18.1% | | 0 | 1 |
| Married | 65.4% | | 0 | 1 |
| Female | 60.3% | | 0 | 1 |
| Age | 47.3 | 15.8 | 18 | 93 |
| Children | 0.853 | 1.269 | 0 | 9 |
| **Neighborhood-level variables** | | | | |
| Neighborhood social ties | -0.057 | 0.197 | -0.482 | 0.768 |
| Social cohesion | -0.339 | 0.300 | -0.946 | 0.686 |
| Expectations for informal social control | -0.195 | 0.297 | -0.833 | 0.828 |
| Collective efficacy | -0.534 | 0.578 | -1.779 | 1.514 |
| Median income (weekly) | 1042.7 | 274.1 | 613.0 | 2323.0 |
| Residential stability | 0.296 | 0.465 | -2.199 | 2.364 |
| Ethnic heterogeneity | 0.271 | 0.185 | 0.000 | 0.637 |
| Proportion Indigenous | 0.026 | 0.021 | 0.000 | 0.091 |
| Population density (1,000's per square kilometer) | 1202.7 | 822.6 | 7.9 | 3372.6 |
| Community problems (average) | 1.8 | 0.2 | 1.2 | 3.0 |
| Percent single parent households | 12.2% | 5.6% | 0.0% | 23.2% |
| Percent young adults | 14.5% | 2.4% | 0.0% | 28.2% |

*Note: neighborhood-level measures are based on full sample of 4,383 respondents. Individual and household measures are based on subsample of 1,310 respondents reporting on 2,614 problems.*

Table A3.  Quintiles of collective efficacy for neighborhoods in full sample, and neighborhoods in analytic sample

| Quintile thresholds | Complete sample | Sub-sample |
|---|---|---|
| 1 | -0.27 | -0.42 |
| 2 | -0.12 | -0.31 |
| 3 | 0.06 | -0.16 |
| 4 | 0.28 | 0.04 |

Table A4.  Perception of large problem, and frequency of taking action, by quintiles of neighborhood collective efficacy for neighborhoods in full sample, and neighborhoods in analytic sample

| | Quintiles based on comple sample | | | | | Quintiles based on sub-sample | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Count | | Percentage | | | Count | | Percentage | |
| Collective efficacy quintile | Took action | See big problem | Took action | See big problem | | Took action | See big problem | Took action | See big problem |
| 1 | 270 | 562 | 36.5% | 47.9% | | 120 | 310 | 16.2% | 26.4% |
| 2 | 178 | 265 | 24.1% | 22.6% | | 141 | 241 | 19.1% | 20.5% |
| 3 | 140 | 177 | 18.9% | 15.1% | | 152 | 210 | 20.5% | 17.9% |
| 4 | 94 | 127 | 12.7% | 10.8% | | 153 | 225 | 20.7% | 19.2% |
| 5 | 58 | 43 | 7.8% | 3.7% | | 174 | 188 | 23.5% | 16.0% |