

GUANXI AND FEAR OF CRIME IN CONTEMPORARY URBAN CHINA

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Western research has investigated individual correlates of fear of crime with a primary focus on people's vulnerability. This vulnerability model examines the possible effects on fear of indicators of people's physical vulnerability (e.g. age and gender) and social vulnerability (e.g. income and education). As is well documented in the research on China, guanxi is a unique aspect of social capital in Chinese society. The present study argues that guanxi in the immediate neighbourhood is an important indicator of the social vulnerability of individuals in urban China. We accordingly hypothesize that residents who have strong neighbourhood guanxi are less likely to be fearful of crime. This hypothesis is assessed with data collected from a recent survey in the city of Tianjin, China. The results of multilevel analysis show that guanxi in the neighbourhood is a significant predictor of fear of crime in contemporary urban China when other important factors are controlled.

Introduction

People's perceptions of public safety and security have been important topics in the criminological literature for several decades. This literature has examined the key social determinants of fear of crime at both the individual level and the neighbourhood level (see Hale 1996 and Pain 2000 for reviews of the literature). With respect to individual-level factors, a major line of inquiry has been guided by a 'vulnerability' model that focuses on the correlations between socio-demographic characteristics and fear of crime (Gates and Rohe 1987; Hindelang *et al.* 1978; Liska *et al.* 1988; Skogan and Maxfield 1981). Demographic characteristics presumed to be indicative of physical and social vulnerability, such as being female and having low income, are expected to increase levels of fear of crime (Braungart *et al.* 1980; Clemente and Kleiman 1977; Taylor and Hale 1986; Will and McGrath 1995). Most studies along this line have examined gender, age, education, income and poverty as important indicators of physical and social vulnerability that are associated with fear of crime (Killias and Clerici 2000; Pantazis 2000; Smith and Torstensson 1997).

Drawing upon the general logic of the vulnerability model, the present study examines a unique indicator of individual vulnerability—*guanxi*—in explaining fear of crime in contemporary urban China. *Guanxi* is a form of social capital in Chinese society. It is commonly defined as a personal network that involves instrumental and affective bonds of individuals. The Chinese rely on these networks for virtually every aspect of their life. The present study focuses on a particular aspect of *guanxi*—close relationships with

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others in the immediate neighbourhood—and argues that *guanxi* in the neighbourhood may be an important indicator of social vulnerability of individuals, one that is likely to be significantly associated with fear of crime. Moreover, we expect that the effect of *guanxi* is likely to emerge despite controls for other predictors of fear of crime that have been proven to be significant in Western research. These hypotheses are assessed using data collected from a recent survey in the city of Tianjin.

The Contemporary Chinese Context

China offers a particularly instructive context for assessing the determinants of fear of crime. Pre-reform China had enjoyed very low crime rates and had earned a reputation of being a virtually ‘crime free’ society (Fairbank 1987; Rojek 1996). People’s fear of crime was not a prominent social issue. However, economic reform in China has resulted in rising crime rates and growing public concern about public safety and security (Liu 2005; 2006). China’s official statistics show that there were substantial increases in serious and violent offences from 1978 to 2006. During the 27-year period, the homicide rate was more than doubled; assault increased 7.9 times; robbery grew by 4.7 times; and larceny rose 8.7 times (*China Law Yearbooks* 1989–2006). As crime rates are surging, Chinese fear of crime and worries about personal safety have also risen, especially in urban areas.

The increasing concern with public safety and security has received a fair degree of attention from the Chinese government and researchers. Since 2001, China’s Census Bureau has conducted annual surveys of people’s concern with their safety and security using a national sample of 100,000. The surveys report that about 81 per cent of the respondents in 2001 and 84 per cent in 2002 felt safe and fairly safe (Wang and Li 2005). These data suggest that most citizens are not particularly fearful, but official reports are open to question. Some Chinese polling firms have also conducted surveys of Chinese concern about safety and security using national samples (Yuan and Fan 2001; Zen and Yuan 2005). For example, the Ling Dian company conducted a poll of people’s opinions on the quality of their life using a national sample of 3,859 in 2004. The safety and security issue was part of the survey. The poll used a Likert-type scale with five response categories ranging from 1 = very unsafe to 5 = very safe and computed the mean score of the responses. The results indicate a mean score of 3.51 (Zen and Yuan 2005). These results also indicate that the general tendency is for Chinese citizens to feel fairly safe (the midpoint of the scale is ‘3’), but they also suggest that fear of crime has crept into public consciousness to a much greater extent than was the case in the pre-reform days of a ‘crime-free society’.

In addition to public opinion polls, Chinese scholars have devoted some attention to the topic of perceptions of safety and security (e.g. Luo and Wang 2004; Shen 2006; Sun and Shi 2004). However, the Chinese studies on this topic that have appeared in professional journals usually involve general discussions or speculations without a guiding theoretical framework and empirical analysis, which reflects the Chinese tradition in social research (Zhou and Cong 2001). Consequently, people’s fear of crime and its determinants in China have been understudied. Indeed, the only prior studies of fear of crime in a Chinese city that apply the techniques of Western research are the works by Liu *et al.* (2008; 2009). These studies (discussed below) offer some support for the vulnerability framework but also indicate the need to adapt the framework to

accommodate distinctive features of Chinese society. We extend this line of inquiry by incorporating the important dimension of *guanxi* into the analysis of the social determinants of fear of crime in contemporary urban China.

Prior Research

The Western research on fear of crime that has been guided by the vulnerability model has focused mainly on the correlations between demographic characteristics and fear of crime. Measures of gender and age have commonly been used as indicators of individual physical vulnerability. The notion is that women and the elderly perceive themselves as less able to protect themselves, 'either because they cannot run fast, or lack the physical prowess to ward off attackers' (Hale 1996: 95). Western studies have indicated that women and the elderly tend to report higher levels of fear of crime compared with men and the younger population. This pattern has been regarded as supportive of the hypothesis that physical vulnerability is associated with greater fear of crime (Braungart *et al.* 1980; Clemente and Kleiman 1977; Smith and Torstensson 1997; Vanderveen 2002; Will and McGrath 1995; Wittebrood 2002).

Along with examining the hypothesis of physical vulnerability, researchers have also relied on the notion of social vulnerability to inform the search for the social patterning of fear of crime. Disadvantages associated with income, education, race and ethnicity are often considered as indicative of social vulnerability. Racial-ethnic minorities or people who have lower socio-economic statuses are likely to lack material and social resources to protect themselves or their property. 'This may increase the sense of lack of control and, potentially, fear of crime' (Hale 1996: 103). Some studies have examined the effects of income and education (Taylor and Hale 1986; Will and McGrath 1995); others have assessed race and ethnicity (Braungart *et al.* 1980; Clemente and Kleiman 1977; Covington and Taylor 1991; Liska *et al.* 1988; Skogan and Maxfield 1981). The findings on social vulnerability have not been entirely consistent, but there is some support for the hypothesis that members of minority groups and persons with low income and less education are more socially vulnerable and thus more likely to report higher levels of fear (Gibson *et al.* 2002).

A few Western studies have examined the possible effect of local ties on residents' perceptions of their safety or fear of crime (Ferguson and Mindel 2007; Gibson *et al.* 2002; Sacco 1993; Taylor *et al.* 1984; Thompson and Krause 1998). Local ties in these studies were usually measured by asking respondents how many neighbours they knew by faces or names, how often they talked with their neighbours or how often they asked for help/assistance from neighbours or were asked for such help/assistance. The studies have yielded mixed findings. Taylor *et al.* (1984) found that local ties at the block level significantly predicted block-level fear. Gibson *et al.* (2002) conceptualize these ties as a kind of social integration at the individual level and hypothesize that residents who are more securely integrated into their neighbourhoods should be less likely to be fearful. Using data collected from three US cities, Gibson *et al.* assess the effect of social integration along with a measure of 'perceived collective efficacy'. They find that the effects of a standard measure of social integration on fear of crime are indirect, operating through perceptions of the degree of collective efficacy in the neighbourhood.

Using similar indicators, Ferguson and Mindel (2007) analyse fear of crime by conceptualizing individual ties in the community as social support networks in a model

that also includes other predictors such as perceived neighbourhood incivility and police presence. Their structural equation modelling indicates that social support networks have no significant effect on fear of crime. We propose that *guanxi* personal networks in Chinese society are distinct from those individual or local ties conceptualized in Western studies (discussed more fully below) and that, as a result, *guanxi* is likely to emerge as an important determinant of fear of crime in China.

In addition to the vulnerability model and the research on local ties, the victimization model and the disorder model have received considerable attention in the literature on fear of crime (Ferguson and Mindel 2007; Skogan 1990; Skogan and Maxfield 1981; Stafford and Galle 1984; Wilson and Kelling 1982). The victimization model is based on the premise that victims of crime will be more likely to be fearful than non-victims. Despite the intuitive appeal of this model, the evidence has actually been rather mixed (Gibson *et al.* 2002). The disorder model shifts attention away from individual characteristics to features of the neighbourhood, and more specifically, to various forms of physical and social 'incivilities' (e.g. abandoned buildings, litter, graffiti, drunkenness, prostitution solicitation, rowdy youths, etc.) (Taylor 2001). Research has offered a good deal of support for the proposition that disorder, both as perceived by residents and as reflected in neighbourhood-level indicators of incivilities, increases fear of crime (Gibson *et al.* 2002: 541).

The literature on fear of crime also includes a number of cross-cultural studies (Murck 1997; Pantazis 2000; Quann and Hung 2002; Vanderveen 2002; Wittebrood 2002). Wittebrood (2002) has conducted multilevel analyses of fear of crime across 16 Western industrialized countries using data collected from the International Crime Victim Surveys (ICVS). Although the study indicates no relationship between nations' demographic characteristics such as proportions of young men, divorces and poverty and fear of crime, it shows a social patterning of fear of crime across all the investigated nations. Women, the elderly and those with low socio-economic statuses are more likely to feel unsafe, consistent with much of the research in the West based on data for a single nation. The study also indicates a strong linkage between victimization experience and fear of crime. Quann and Hung (2002) report similar findings using data collected from ICVS in 17 industrialized countries.

Finally, two prior studies based on survey data for the city of Tianjin have applied the prominent Western frameworks to the study of fear of crime in the Chinese context. Liu *et al.* (2009) find that females tend to report higher levels of fear, and that those with a high degree of perceived physical strength and self-defence capabilities report lower levels of fear. These patterns are consistent with the logic of the vulnerability framework and with findings in the West. In contrast, they discover that younger respondents and more educated respondents express higher levels of fear than their counterparts. These findings are opposite to those commonly observed in Western research. Liu *et al.* propose that in the Chinese context, young people and the highly educated are more likely to be exposed to non-traditional media not controlled by the state. As a result, the young and highly educated perceive more disorder in their neighbourhoods and in society and are more fearful of crime. Consistent with this interpretation, they find in their multilevel models that both individual perceptions of disorder and disorder measured at the neighbourhood level are associated with greater fear of crime. In further analyses of the Tianjin data, Liu *et al.* (2008) report that perceptions of disorder in the neighbourhood

mediate the influence on fear of crime of some of the demographic variables and of victimization experiences.

The studies by Liu *et al.* demonstrate the partial applicability of the Western analytic frameworks to the understanding of fear of crime in China, but they also underscore the importance of adapting these frameworks to the Chinese context. We build upon the prior work of Liu *et al.* by conceptualizing and operationalizing a variable that reflects a distinctive feature of Chinese society—*guanxi* in the neighbourhood—and by distinguishing the effect of this variable in multilevel regression models from those of other predictors considered in Western studies of fear of crime.

Guanxi as an Indicator of Social Vulnerability

Both Chinese and Western researchers have observed a relational culture of *guanxi* that permeates every aspect of Chinese life (Liang [1949] 1986; Fei [1949] 1992; King 1985). *Guanxi* is commonly defined as a personal network that involves individual bonding, empathy, reciprocity and trust (Geddie *et al.* 2005). It dictates and facilitates Chinese people's daily life. As the notable Chinese scholar, Liang Shuming, has argued, Chinese society is neither individual-based nor society-based, but relation-based instead (cited from Gold *et al.* 2002: 10). This cultural characteristic represents a sharp contrast with typical Western individualistic orientations, as reflected in weak personal ties, infrequent interaction and low intimacy. Although Westerners may also have social networks that involve friends, colleagues, former classmates or other relationships, *guanxi* as a personal network has distinctive features. It is 'based implicitly (rather than explicitly) on mutual interest and benefit. Once *guanxi* is recognized between two people, each can ask a favor of the other with the expectation that the debt incurred will be repaid sometime in the future' (Yang 1994: 1–2). This reciprocity grounded in obligation and indebtedness makes individuals in the *guanxi* circle feel that they can rely on others for support in a wide range of aspects of their lives.

Another distinctive feature is the component of affection in *guanxi* (Bell 2000; Gold *et al.* 2002; Hillman 2005; Kipnis 1997). *Guanxi* is not only instrumental for achieving individual interests and benefits. It also involves mutual affection or sentiment (*ganqing*) that is personal and is derived from extensive exposure of individuals' private lives to each other in the *guanxi* circle. The subtle combination of instrumental and affective components in *guanxi* creates a basis of trust in the relationship (Smart 1993). Therefore, individuals may benefit from their *guanxi* not only instrumentally, but also affectively.

Guanxi is rooted in blood relationships and then extends outward to other connections/relationships (Bell 2000; Zhang and Zhang 2006; Yang 1994). A prominent Chinese sociologist, Fei Xiaotong [1949] (1992), uses the image of ripples formed from a stone thrown into a lake to illustrate the development of *guanxi*. Family members and relatives are located at the core of the *guanxi*, while friends, classmates, neighbours, co-workers or other acquaintances are located at more peripheral positions in terms of the centrality of the relationships and the degrees of trust (Zhang and Zhang 2006).

The impact of the profound changes associated with the introduction of market reforms in China on the role of *guanxi* is a controversial matter. Some scholars have suggested that as a market-oriented economy expands, the role of *guanxi* networks in people's lives is actually becoming stronger because Chinese life becomes more uncertain during the transformation (Bian 1994; Bian and Zhang 2001). In contrast, others

maintain that the significance of *guanxi* in Chinese life is declining along with the institutionalization of the market economy and the development of formal law (Guthrie 2002; Hanser 2002; Situ and Liu 1996). Still others adopt a more intermediate stance between these two views, proposing that the role of *guanxi* is being transformed but not eliminated (Potter 2002; Yang 2002). Its role may be declining in some areas, but it continues to flourish in new areas and is manifested in new forms. Although total consensus has yet to be reached among scholars, there is general agreement that *guanxi* networks still serve as a significant form of individuals' social capital in Chinese society at present (Gold *et al.* 2002). It thus seems reasonable to propose that *guanxi* represents a key social resource that is likely to indicate social vulnerability (or relative social invulnerability), and that it is likely to be associated, in turn, with the likelihood of being fearful of crime.

Analytical Framework

The major hypothesis under examination in this study is that residents who have strong *guanxi* in the neighbourhood are less likely to exhibit fear of crime. The hypothesis is assessed when other important individual and contextual variables are controlled in a multilevel regression framework. In selecting the control variables, we have drawn upon the previous research and theorizing on fear of crime in the West, as well as the results of the prior Tianjin study.

The regression models include the standard socio-demographic characteristics that have been used as indicators of physical and social vulnerability: gender, age, education and family income.¹ We also control for the respondents' ratings of physical strength and self-defence/alertness, which can similarly be viewed as reflecting vulnerability. Two measures represent the victimization model of fear of crime: having been the victim of violent or personal property crime. Our control variable at the individual level drawn from the disorder perspective is respondents' perceptions of disorder in the neighbourhood.

The incorporation of the measures of local ties used in Western studies into our analysis of *guanxi* entails certain complexities. The concept of *guanxi* in the neighbourhood overlaps with broad notions of local ties in the West in that it involves social connections with neighbours. However, our underlying premise is that *guanxi* has distinctive qualities in the Chinese context. To substantiate this premise empirically, we include a measure of local ties that is based on the degree to which neighbours provide various forms of assistance to one another. We also include a measure of 'perceived collective efficacy' following Gibson *et al.* (2002), as well as Sampson *et al.* (1997), which is based on a combination of informal social control and social cohesion among neighbours. Before estimating the multivariate regression models, we assess the extent to which our operational measure of *guanxi* is in fact empirically distinct from the measures of local ties and social cohesion commonly used in Western studies (see Taylor 2002).

In addition to the control variables reflecting individual-level properties, our dataset also permits multilevel analyses. It is thus possible to examine the effect of residents'

¹ The population in Tianjin is racially homogeneous, and thus no control for race is required.

guanxi in the neighbourhood, net of selected contextual variables. We include five such control variables measured at the neighbourhood level. The first four are analogous to individual-level variables: *guanxi*, local assistance ties, collective efficacy and social disorder, but these variables refer to aggregate measures rather than individual perceptions. Finally, the regression models also include a measure of neighbourhood disadvantage as a control variable to separate the effect of family income from the possible contextual effect of economic disadvantage.

Data and Methods

Data collection

The data were collected from a multi-stage survey of residents in the city of Tianjin, China, in 2004.² Tianjin is the third largest city in China, surpassed by only Shanghai and Beijing.³ The city is located to the southeast of Beijing. Tianjin is a major industrial centre and is the most important port of Northern China. The city covers a geographic area of approximately 4,365 square miles.

The survey implemented a multi-stage cluster sampling design that drew approximately 2,500 respondents who were 18 and over. Tianjin has 15 administrative districts and three counties. The sample was drawn from the six traditional districts located in the central urban area of the municipality. These districts include the Heping, Nankai, Hongxiao, Hexi, Hebei and Hedong districts. Each district has approximately six to ten City-Street Offices, which are the grass-roots organizations of the Tianjin government. At the first stage, the survey randomly selected two City-Street Offices from each of the selected districts, yielding a total of 12 City-Street Offices.

At the second stage, the survey drew two large offices that included a relatively large number of neighbourhood committees from the 12 selected City-Street Offices. Five neighbourhood committees were then randomly selected from each of these two large City-Street Offices, while four neighbourhood committees were randomly drawn from each of the remaining 10 City-Street Offices. A total of 50 neighbourhood committees were thus obtained through a combination of purposive and random selection. Members of the research team met the supervisor in each of the selected neighbourhood committees to explain the purpose and importance of the survey, the financial sources of the survey and compensation for costs associated with administration. Upon securing agreements for assistance, the research team requested a complete list of households in that neighbourhood.

Fifty-one households were selected from each of the 50 selected neighbourhoods in hopes of reaching the target of 2,500 households. Using the household roster provided by the neighbourhood committee in each selected neighbourhood, the research team conducted systematic sampling. A starting point was randomly determined and every eighth household from each neighbourhood was selected until the specified number of households was obtained. The research team defined a criterion date for selecting a specific respondent from a selected household with more than one member 18 years

²The survey was conducted in collaboration with the Tianjin Academy of Social Sciences.

³The following description of Tianjin is taken from the online version of Encyclopaedia Britannica (www.britannica.com/eb/article-9108664/Tientsin).

old or older. The individual with a birthday closest to the criterion date was chosen to be the respondent.

Data were collected through anonymous, self-administered questionnaires at convenient sites within the neighbourhood (e.g. recreational areas). With the assistance of the neighbourhood committees, the research team contacted the respondents to schedule the administration of the questionnaire. A total of 2,474 valid questionnaires were obtained, yielding an extremely high response rate—97 per cent. Missing data on some variables result in a sample size of 2,455 for analyses of individual characteristics across the 50 neighbourhoods.

Measures

The dependent variable in the analysis is self-reported fear of crime. The question on the survey instrument asks: ‘When you walk in the neighborhood that you live in at night, do you feel fear?’⁴ The original response categories are ‘not at all’ (1), ‘somewhat’ (2) and ‘very much’ (3). An examination of the univariate distribution reveals that the response ‘very much’ is quite rare (only approximately 3 per cent). We have accordingly created a dummy variable that differentiates respondents who report no fear (‘not at all’) from those who report fear (‘somewhat’ or ‘very much’).

The primary independent variable is *guanxi*. *Guanxi* networks span diverse relationships, including relatives, friends, former classmates and neighbours that have developed through blood-ties, personal contacts, interaction and associations. The Tianjin dataset contains items relevant to one form of *guanxi*—*guanxi* in the immediate neighbourhood. There are three survey items that can be used to measure individuals’ *guanxi* in their neighbourhoods: (1) ‘How many close relatives (in addition to the immediate family members in your household) do you have who live in your neighborhood?’; (2) ‘How many close friends do you have who live in your neighborhood?’; and (3) ‘How many neighbors do you know quite well in your neighborhood?’ The responses to these questions are summed to create a measure of *guanxi* according to which high scores represent a strong *guanxi* network. The distribution of the measure shows significant variation, with a minimum value of 0 and a maximum value of 400 (mean value = 9.13 and standard deviation = 14.21). Given the high degree of skewness, we convert the measure into natural logarithms to normalize the distribution.

We acknowledge that our survey items only allow for an indirect measure of *guanxi*. As explained above, *guanxi* involves social ties that are imbued with sentiments of reciprocity, obligation and affection, and they serve both instrumental and emotional purposes. The survey items do not ask specifically about these qualities, but they do capture relationships that are laden with affect (‘close’ relatives and friends; persons known ‘quite well’). Our measure is thus best regarded as an indicator of the associational infrastructure of *guanxi* among neighbours.

Our measures of the socio-demographic control variables are straightforward. Gender is a dummy variable scored in the direction of ‘female’. Age is measured in years.

⁴ Although the survey item does not refer specifically to crime, it appears in the context of a criminal victimization survey, and thus it is reasonable to assume that the response refers to fear of crime. This type of measure of fear of crime has long been used in the Western literature (e.g. Hindelang *et al.* 1978: 176).

Education is an ordinal measure with three categories: 'illiterate and elementary school' (0); 'middle school' (1); and 'college and above' (2). The measure of family income refers to monthly income per person for members of the household living together. The response categories are: 'below 500 *yuan* (Chinese dollars)' (0); '500–999 *yuan*' (1); and '1,000 *yuan* and above' (2). In addition to these socio-demographic variables, we consider two direct indicators of vulnerability. Physical strength is measured using responses to the survey item: 'How would you rate your physical strength?' The indicator of self-defence/alertness is based on responses to an item: 'How do you rate your capability of self-defense/alertness with respect to personal safety?'⁵ These two measures are scored as: 'poor' (1); 'average' (2); 'strong' (3); and 'very strong' (4). Higher scores thus indicate less vulnerability.

Drawing upon the victimization perspective, we include measures of victimization for both violent and property offences.⁶ They reflect respondents' reports of having been the victim of robbery, assault, personal theft or being 'swindled' during the past five years. Personal violent victimization is a dummy variable scored '1' for respondents who reported being victimized on either a robbery or an assault during the reference period, while personal property victimization is a dummy variable scored '1' for those who reported being a victim of either of the two property offences.

Our measure of perceived social disorder is based on three items, which are similar to those used in Western research: (1) 'In the past six months, have you seen or heard youth groups fighting in your neighborhood?'; (2) 'In the past six months, have you seen or heard young hooligans creating trouble in your neighborhood?'; and (3) 'In the past six months, have you seen or heard loud arguments or quarrels between neighbours?' The response categories to these three questions are: 'often' (4); 'sometimes' (3); 'rarely' (2); and 'never' (1). The measure of perceptions of social disorder is a composite index based on the sum of responses to these three items (the standardized alpha reliability = 0.71).

The Tianjin survey contains items that are similar to those commonly used in Western studies to capture certain features of local ties in the neighbourhood. These items reflect the degree to which respondents provide various forms of assistance to their neighbours. The specific questions ask respondents how often they watch their neighbours' children, help grocery shop for their neighbours and help take care of elderly neighbours. The response categories range from 1 = almost never to 6 = several times a week. Our measure of local assistance ties is a composite index based on the sum of responses to these three items (the standardized alpha reliability = 0.65).

Following Western research (e.g. Sampson *et al.* 1997; Gibson *et al.* 2002), the measure of perceived collective efficacy combines indicators of social cohesion among neighbours and informal control. The survey contains three items relevant to social cohesion: 'Do you think your neighborhood is a close-knit neighborhood?'; 'When you or your family have (has) some important matters, does anyone in this neighborhood care much about

⁵The item for self-defence/alertness might appear to confound multiple constructs and be a 'double-barrelled' question, but this reflects difficulties in translation. The wording of the item in Chinese is 您的自我防卫意识与能力怎样, which is readily understandable for Chinese respondents.

⁶We acknowledge a possible source of measurement error for the victimization variables. Respondents who are more fearful might be more likely to remember recent victimizations. The observed relationship for these variables must accordingly be interpreted cautiously.

them?'; and 'Do people in this neighborhood trust each other?' Each question has a Likert-type response set: 1 = certainly so, to 4 = certainly not. Responses to these questions were recoded and summed to create an index of social cohesion in the direction that high scores represent high levels of social cohesion (the standardized alpha reliability = 0.71). The item relevant to informal control is: 'If there is a major problem around here, do neighbors get together to discuss and work out solutions to deal with it?' The response set and coding for this item are the same as that for the items of social cohesion. We combined the measures of social cohesion and informal control to create the measure of perceived collective efficacy.

Our remaining set of control variables reflects characteristics of the neighbourhood in contrast with individual properties. We aggregated and computed the means of responses to the items that were used to create the individual-level measures of *gaunxi*, perceived neighbourhood disorder, and local assistance ties in each of the 50 neighbourhoods and summed them to create three composite measures of *guanxi*, social disorder and local assistance ties at the neighbourhood level. The standardized alpha reliability is 0.79 for the measure of social disorder and 0.86 for the measure of local ties. The same procedure was followed to create a measure of collective efficacy at the neighbourhood level. We aggregated and computed the means of responses to the items that were used to create the individual-level measure of social cohesion and informal control and then combined them to create the measure of collective efficacy at the neighbourhood level. The standardized alpha reliability is 0.79 for the measure of social cohesion, and the correlation between the measures of social cohesion and informal control is 0.43.⁷ Finally, we also control for neighbourhood disadvantage. The measure is a composite index based on the proportion of households with family income below 500 Chinese dollars and the proportion of residents unemployed in the neighbourhood. The standardized alpha reliability is 0.76. Descriptive statistics for all measures are reported in Appendix 1.

Statistical procedures

Given the dichotomous nature of the dependent variable of fear of crime, we use the Hierarchical Generalized Linear Model (HGLM) for the statistical estimation. Our analyses include individual and neighbourhood levels. The level one model in HGLM consists of three parts: a sampling model, a link function and a structural model. Different from a normally distributed dependent variable, whose level 1 sampling model is a normal distribution, our dependent variable is a dichotomous variable. Thus, the sampling model is the binomial sampling model. In the case of a normal distribution, the link function is an 'identity function', which does not change the sampling distribution. In our dichotomous dependent variable situation, the link function is the log of odds of 'success' (fear) (logit). Similar to the familiar logistic regression situation, the logic link function can take any real value, while the probability of success is

⁷The correlation between the measures of informal control and social cohesion in our sample is notably lower than that observed in the research by Sampson *et al.* (1997) based on data for Chicago neighbourhoods, as noted in a previous analysis based on the Tianjin data (Zhang *et al.* 2007). Sampson *et al.* report a correlation of 0.80. The divergence may reflect the fact that only a single indicator of informal social control is available in our survey, whereas Sampson *et al.* use multiple indicators. It is also possible that the two dimensions of collective efficacy do not in fact converge as closely in China as in the West.

constrained to be in the interval (0, 1). The logit link function transforms the binary distribution to an unconstrained range. The remainder of the model is the same as in the case of ordinary logistic regression (for details, see Raudenbush and Bryk 2002: 293–6).⁸ We begin the multivariate logistic analysis by estimating a model that includes the measure of *guanxi* and the individual-level control variables. We then introduce the neighbourhood-level control variables into the model.

Results

Before reporting the results of the multivariate analyses, the issue of discriminant validity needs to be considered. Are the operational indicators of *guanxi* in the neighbourhood empirically distinct from other items that have been used to capture various aspects of the general construct of ‘local ties’ or ‘neighbourhood integration’ in Western research? We can address this question by conducting confirmatory factor analysis with structural equation modelling. To determine if our proposed indicators of *guanxi* are empirically distinct from the indicators of local assistance ties, we have compared the fit indices of two measurement models. One model allows all of the indicators to load on a single latent construct; the other stipulates two latent constructs. The results indicate that, consistent with our conceptualization, the measurement model with two latent constructs fits the data significantly better than does the model with a single latent construct.⁹

We have conducted similar analyses to determine if our indicators of *guanxi* are distinct from those of social cohesion. Once again, the results indicate that modelling these indicators as representing two distinct latent constructs rather than as indicators of a single construct is more faithful to the data.¹⁰ These confirmatory factor analyses thus indicate that that our measure of *guanxi* is in fact empirically distinct from some of the indicators of local ties and social cohesion commonly used in Western studies.

Turning to the multivariate results, Table 1 reports estimates from the logistic regression of fear of crime on the measure of neighbourhood *guanxi* and the control variables.¹¹ Model 1 includes only individual-level variables, whereas Model 2 introduces the neighbourhood-level variables. The results are highly similar across specifications. Of greatest theoretical interest is the significant, negative effect of the measure of *guanxi*. Consistent with our main hypothesis, respondents with a high degree of *guanxi* in the neighbourhood are less likely to report being fearful of crime than those with a lower degree of *guanxi*. This effect emerges despite controls for a fairly comprehensive array of controls for relevant individual and neighbourhood characteristics.

⁸We also estimated hierarchical ordinal logistic regressions with the original three-category measure of fear of crime, although the data do not meet the assumption of parallel regression. The results are substantively similar to those yielded in the binary logistic regressions.

⁹The one-latent-construct model has $\chi^2 = 148.330$ with DF=9, whereas a two-latent-construct model has $\chi^2 = 47.461$ with DF=8. The χ^2 difference is 100.869, and the DF difference is 1 between the two models. A χ^2 of 100.869 with 1 DF is statistically significant, indicating that the two-latent-construct model differs significantly from the one-latent-construct model. A comparison of the CFIs (0.898 for the one-latent-construct model and 0.971 for the two-latent-construct model) indicates that the two-construct model fits the data much better.

¹⁰For these analyses, a one-latent-construct model has $\chi^2 = 196.539$ with DF=9 and CFI=0.893, and a two-latent-construct model has $\chi^2 = 41.093$ with DF=8 and CFI=0.981. The χ^2 difference is 155.500 (1 DF), which is statistically significant.

¹¹Our analysis of the intercept-only model indicates that the statistics for the variance component (0.073) is significant ($p < 0.01$), implying that respondents’ reported fear of crime varies significantly across the sampled neighbourhoods.

TABLE 1 *HLM logistic regressions of fear of crime on guanxi and control variables*

Variables	1	2
<i>Fixed effects</i>		
Intercept	-0.870 (0.471)	-2.971 (2.174)
<i>Individual-level variables</i>		
Guanxi (logged)	-0.35* (0.15)	-0.38* (0.16)
Gender (female)	1.84** (0.13)	1.85** (0.12)
Age	-0.01** (0.004)	-0.01** (0.004)
Education	0.24* (0.11)	0.26* (0.12)
Family income	-0.08 (0.07)	-0.06 (0.07)
Physical strength	-0.13* (0.07)	-0.13 ^v (0.07)
Self-defence/alertness	-0.41** (0.07)	-0.41** (0.07)
Perceived collective efficacy	-0.05 ^v (0.03)	-0.05 ^v (0.03)
Local assistance ties	0.01 (0.03)	0.01 (0.03)
Perceived disorder	0.27** (0.03)	0.26** (0.04)
Personal violent victimization	0.32 (0.28)	0.32 (0.28)
Personal property victimization	0.33* (0.14)	0.34* (0.13)
<i>Neighbourhood-level variables</i>		
Guanxi	—	0.01 (0.02)
Local assistance ties	—	0.14 (0.05)
Collective efficacy	—	-0.02 (0.13)
Social disorder	—	0.26 ^v (0.15)
Neighbourhood disadvantage	—	0.004 (0.003)
<i>Random effects</i>		
Intercept, τ_{00} σ	0.097	0.092
χ^2	87.777**	76.889**

Notes: N=2,454 for the individual-level variables and 50 for the neighbourhood-level variables.

^vp < 0.05 one-tailed test; *p < 0.05; **p < 0.01.

The findings for the control variables are generally in accord with those yielded in past research. Consistent with studies in the West, females, respondents who perceive disorder in the neighbourhood and victims of property crimes are more likely to be fearful than their counterparts, whereas those who perceive a high degree of collective efficacy in the neighbourhood are less likely to be fearful. The findings for age, education and self-defence/alertness replicate those reported by Liu *et al.* (2008; 2009) in regressions with slightly different specifications. Contrary to Western research, young people and the highly educated are more likely to express fear of crime in the Chinese context. Physical strength and capacity of self-defence/alertness are negatively associated with fear of crime, which is in accordance with the general logical of the physical vulnerability perspective.

The only neighbourhood-level variable to yield a significant coefficient (one-tailed test) is the measure of social disorder, replicating Liu *et al.* (2008). A high degree of disorder in the neighbourhood increases the likelihood that a respondent reports being fearful of crime. This effect supports the disorder model and is consistent with the findings in Western studies (Skogan 1990; Taylor 1996; Taylor *et al.* 1985).¹² Given that only one neighbourhood-level variable exhibits a significant effect, it is not surprising

¹²We also estimated the full model after adding a measure of neighbourhood crime level. Responses to the victimization in household burglary and bicycle theft at home were aggregated and summed to create the measure. The results are unchanged when this additional control variable is entered into the model.

that the decrease in the residual deviance across Models 1 and 2 is quite modest—just over 5 per cent $((0.097 - 0.095)/0.097)$.

Finally, we have assessed the robustness of the effect of *guanxi* on fear of crime by re-estimating the regressions after decoupling the two components of the collective efficacy measure—the index of social cohesion and the item reflecting informal social control. As reported above, the correlation between the two components of collective efficacy is 0.43, which is much lower than that ($r = 0.80$) reported by Sampson *et al.* (1997). Accordingly, the composite measure might mask effects of social cohesion and informal control, and failure to adjust for any such effects might bias the coefficients for the *guanxi* measure. The results of regressions with separate measures of social cohesion and informal control at both the individual and neighbourhood levels are virtually identical to those reported above. The coefficient for *guanxi* is significantly negative, while the coefficients for social cohesion and informal control are non-significant.

Summary and Conclusion

The present study has assessed *guanxi* as a predictor of fear of crime in contemporary urban China using data collected from a recent survey of criminal victimization in the city of Tianjin. Applying the general vulnerability model as developed in the West, we have argued that *guanxi* represents a distinctively Chinese form of social capital and should be considered an important dimension of individual social vulnerability. Accordingly, *guanxi* is hypothesized to be a significant predictor of fear of crime.

Our analyses yield support for this hypothesis when other influential factors are statistically controlled. Residents who have extensive *guanxi* networks in the neighbourhood are significantly less likely to exhibit fear of crime than those without these networks. Although our measure of *guanxi* does not fully capture all of the nuances of the concept, our analyses indicate that it is distinct from the measures of local assistance ties and social cohesion commonly used in Western studies. To the extent that the measure does reflect key features of *guanxi* networks, our results suggest that the effects of indicators of different forms of social capital may be specific to the socio-cultural context.

The Western studies on the possible effect of local ties or support on people's feelings and perceptions of their safety have yielded mixed findings. Our data indicate that a fairly similar measure of local assistance ties has no effect on reported fear of crime in the Chinese context. However, the measure of perceived collective efficacy, which is a combination of informal control and social cohesion, has a modest effect, which is consistent with Gibson *et al.*'s study (2002). These findings across Chinese and Western studies suggest that the social patterning of fear of crime deserves further exploration using not only similar measures, but different measures as well that reflect variation in cross-cultural context (Murck 1997; Quann and Hung 2002).

Results for the control variables are in large measure supportive of the vulnerability, victimization and disorder models that have been widely used in Western research. Consistent with an earlier study by Liu *et al.* (2009), female respondents and respondents who had victimization experience in property crime are more likely to report fear of crime, while respondents with stronger physical strength or stronger capacity of self-defence/alertness are less likely to be fearful. Also, the measure of perceived disorder in the neighbourhood and the measure of neighbourhood disorder as a contextual variable have significant positive effects on reporting fear of crime. These findings

provide support for the vulnerability, victimization and disorder models. However, our multilevel analyses indicate that *guanxi* has no contextual effect on fear of crime. This suggests that *guanxi* entails a personal network with deep affective involvement that exerts an individual psychological effect rather than a contextual or ecological effect on fear of crime.

Furthermore, the data replicate the findings reported by Liu *et al.* (2009) based on regression models without the measure of *guanxi* that younger people are more likely to be fearful of being victimized than older people. This pattern is contrary to the prediction of the vulnerability model and inconsistent with the common findings in Western studies. Liu *et al.* (2009) speculate that the age effect in urban China may reflect differential exposure to the media. The elderly are likely to rely heavily on governmentally controlled media, which tend to avoid coverage of topics that reflect unfavourably upon society, such as crime.

We can offer an additional interpretation. Given the Chinese cultural tradition of 'familism' that emphasizes strong ties and stakes in extended family relationships, old people are not likely to live alone in urban China (Lau 1981; Ting and Chiu 2002; Whyte 2005; Zhang 2004). They also retain close relationships with their children and relatives, who are heavily involved with their lives, with less concern for independence and privacy than is common in the West. Also, urban China communities have semi-public organizations—neighbourhood committees. One major function of these committees is to organize recreational and exercise activities such as choral or *taiji* groups for residents in their neighbourhoods, especially for elderly residents (Read and Chen 2006). The greater involvement of old people with extended families and their communities, combined with their low risk of being victimized by crime (see Messner *et al.* 2007), may provide a plausible explanation for the finding that older people are less likely to report fear of crime than younger ones in contemporary urban China.

Another finding that differs from those reported in Western research is that respondents with higher education are more likely to report fear of crime than those with lower education, which is also inconsistent with the vulnerability model and Western studies. Liu *et al.* (2009) propose that this pattern might also be interpreted with reference to differential exposure to the media—the highly educated are likely to be exposed to non-governmental media and the internet. We suggest that in addition to these media effects, perhaps people who have received more education are less likely to have well developed 'street smarts' and skills for negotiating risky situations. Further research is needed to assess these speculative interpretations.

To summarize, our findings demonstrate that there may be common determinants of fear of crime (e.g. gender, victimization experience and social disorder) across different social and cultural settings. However, some determinants of fear of crime might reflect distinctive features of the social and cultural setting, such as *guanxi*. A critically important task for comparative criminology is to conceptualize social factors that might be uniquely relevant to particular social-cultural contexts and to examine the impact of these factors across such contexts.

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Appendix 1: Descriptive Statistics of Variables

	Mean	SD	Minimum	Maximum
<i>Dependent variable</i>				
Fear of crime	2.66	0.54	1.00	3.00
<i>Individual-level independent variables</i>				
<i>Guanxi</i> (logged)	0.82	0.40	0.00	2.60
Gender	0.49	0.50	0.00	1.00
Age	42.85	15.67	18	78
Education	1.14	0.54	0.00	2.00
Family income	0.85	0.77	0.00	2.00
Physical strength	2.50	0.88	1.00	4.00
Self-defence/alertness	2.60	0.78	1.00	4.00
Perceived collective efficacy	12.88	2.24	4.00	16.00
Local assistance ties	4.32	2.32	3.00	18.00
Perceived disorder	5.30	1.71	3.00	12.00
Personal violent victimization	0.04	0.19	0.00	1.00
Personal property victimization	0.18	0.39	0.00	1.00
<i>Neighbourhood-level independent variables</i>				
<i>Guanxi</i>	9.14	2.68	4.72	17.82
Local assistance ties	4.32	0.55	3.43	5.73
Collective efficacy	12.88	0.47	11.60	13.96
Social disorder	5.29	0.39	4.34	6.14
Neighbourhood disadvantage	57.14	19.30	12.00	94.00

Note: N = 2,454 for the individual-level variables and 50 for the neighbourhood-level variables.