Am J Community Psychol
DOI 10.1007/s10464-009-9255-7

ORIGINAL PAPER

Socio-Demographic Correlates of Fear of Crime and the Social Context of Contemporary Urban China

Jianhong Liu · Steven F. Messner · Lening Zhang · Yue Zhuo

Abstract Previous research in the West has established major socio-demographic correlates of fear of crime. The interpretation of these correlates is typically based on the concept of physical or social vulnerability of individuals. These correlates are implicitly regarded as invariant to social or community contexts, reflecting universal human behavioral patterns. The present study argues that social change may alter patterns of perceptions associated with fear among socio-demographic groups, thus affecting socio-demographic correlates of fear of crime. We explore how social changes in China have created a generational gap that influences the effects of age and education on fear of crime. The study finds that, in contrast with the well-established patterns in Western communities, the young and educated exhibit a higher level of fear of crime in urban China than their counterparts. The study also finds that consistent with Western literature, females are fearful and that personal victimization experience increases the level of fear. We discuss the social and community processes that produce these interesting patterns.

J. Liu
Southwest University of Political Science and Law, Chongqing, China

J. Liu (✉)
Faculty of Social Sciences and Humanities, University of Macau, Av. Padre Tomas Pereira, S. J. Taipa, Macau, China
e-mail: jliu@umac.mo

S. F. Messner · Y. Zhuo
Department of Sociology, University at Albany, SUNY, Albany, NY, USA

L. Zhang
Department of Behavioral Sciences, Saint Francis University, Loretto, PA, USA

Keywords Fear of crime · Vulnerability · Neighborhoods · Criminal justice · China

Introduction

Socio-demographic correlates of fear of crime are among the most often reported findings in the literature. The research within the West has yielded some well-established patterns. The dominant theoretical perspective invoked to interpret these patterns is the vulnerability model (Braungart et al. 1980; Clemente and Kleiman 1977; Kennedy and Silverman 1985; Taylor and Hale 1986; Will and McGrath 1995). According to this model, those who are physically or socially more vulnerable are expected to report higher levels of fear of crime. Women and the elderly are typically conceptualized as physically vulnerable populations, while those with lower income and less education are typically viewed as socially vulnerable groups. Largely consistent with the vulnerability model, the research indicates that women and the elderly report higher levels of fear (Braungart et al. 1980; Clemente and Kleiman 1977; Kennedy and Silverman 1985; Vanderveen 2002; Will and McGrath 1995; Wittebrood 2002); lower income and the less educated also tend to report higher levels of fear of crime (Taylor and Hale 1986; Will and McGrath 1995; Gibson et al. 2002).

Vulnerability as a theoretical underpinning for selected socio-demographic correlates of fear of crime is intuitively appealing and has been widely accepted. This theoretical interpretation suggests that social-demographic statuses reflect traits that are relatively similar across societal and community settings. Repeated findings of similar patterns for the socio-demographic correlates lend credibility to the validity of the vulnerability interpretation.

The first objective of the present study is to question the basic premise that socio-demographic correlates of

Published online: 25 June 2009

fear are invariant across social or community contexts. We ask whether these socio-demographic correlates might differ under specified social conditions. The second objective is to identify the processes underlying any variation in the social patterning of fear. What kinds of processes might account for differences in the correlates of fear of crime?

In the literature on fear of crime, another well-established finding is that individuals who perceive higher levels of social disorder report higher levels of fear of crime (Kurtz et al. 1998; Perkins et al. 1992; Wilson and Kelling 1982; Skogan 1990; Taylor 1996, 2001; Taylor et al. 1985; Markowitz et al. 2001). This important finding suggests that perception of disorder may also be implicated in the generation of socio-demographic correlates of fear of crime. If under certain social and community contexts differential perceptions of social disorder occur along socio-demographic dimensions such as age or education, the overall correlation of age or education with fear of crime could be influenced by the differential perception of disorder, not just vulnerability.

The third objective of the present study is to take advantage of China's profound social change to examine the effect of social context on the production and explanation of the socio-demographic correlates of fear of crime. We anticipate that if social change produces differential perceptions of disorder among socio-demographic groups, this differential perception of disorder will influence the socio-demographic correlates and produce correlates that reflect the influence of the larger social context.

Research Background

Fear of crime has been recognized as a major social problem, and a large literature has accumulated on the topic. The influential theories that inform most research are vulnerability theory and disorder theory (Dubow et al. 1979; Perkins and Taylor 1996). Within community psychology, a good number of papers have been published to explicate the key factors that influence fear of crime (Norris 1992; Perkins et al. 1990; Perkins and Taylor 1996; Riger et al. 1981; Riger 1985; Ross and Jang 2000; Taylor and Shumaker 1990; Thompson and Norris 1992).

Vulnerability theory explains well established patterns pertaining to the socio-demographic correlates of fear of crime. The theory includes two aspects. One is physical vulnerability. Much of the research has found that females and the elderly are more fearful than males and the young. The theory interprets this pattern as reflecting an association between fear of crime and greater physical vulnerability (Braungart et al. 1980; Clemente and Kleiman 1977; LaGrange and Ferraro 1989; Kennedy and Silverman 1985; Vanderveen 2002; Will and McGrath 1995; Wittebrood 2002).

The second aspect of vulnerability theory incorporates social vulnerability. It maintains that socio-economic disadvantages associated with income, education, race, and ethnicity are often indicative of such vulnerability. Researchers typically hypothesize that similar to physical vulnerability, social vulnerability is related to greater fear of crime. Some studies have examined the effects of income and education (Taylor and Hale 1986; Will and McGrath 1995), while others have examined 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).

Whereas the vulnerability thesis focuses on socio-demographic characteristics, another influential theoretical account of the determinants of fear of crime directs attention to the community setting. This is the disorder model, also known as the "incivilities thesis." An early statement of this perspective appears in Wilson's (1975) widely cited work, while Wilson and Kelling (1982), Lewis and Salem (1986), and Skogan (1990) further develop the core themes. Wilson and Kelling's (1982) seminal paper, published in the *Atlantic Monthly*, proposed the famous "broken window thesis." Wilson and Kelling maintain that the consequences of incivilities extend beyond merely negative appearances. Conditions such as un-repaired physical deterioration on a street block undermine residents' trust in one another and erode neighborhood informal social control, thereby encouraging delinquency and causing fear of crime. The precise nature of the causal arguments differs in various formulations of the incivilities thesis (for a thorough analytic review, see Taylor 2001). Nevertheless, the common element is the claim that disorderly social and physical conditions in urban communities are primary sources of fear, crime, and community decline more generally.

Disordered social conditions include conduct in public spaces such as drinking, drunkenness, rowdy and unsupervised teen groups, neighbors fighting or arguing, solicitations for prostitutes, and drug sales. Physical disorder includes graffiti, litter, trash-filled vacant lots, abandoned cars, abandoned housing, and shuttered stores. These forms of social and physical disorder allegedly generate fear of crime and encourage residents to withdraw from the community, which weakens informal social control. Such areas become attractive locations for criminal activity given the lack of guardianship (see especially Wilson and

Kelling 1982). Disorder, fear of crime, and crime itself thus operate in concert to set into motion a spiral of decay and decline in urban neighborhoods (Skogan 1990: 65).

Several studies have tested the incivilities thesis regarding the link between disorder and fear of crime with aggregated data at the street block level (Kurtz et al. 1998; Perkins et al. 1992; Wilson and Kelling 1982; Perkins and Taylor 1996). Other studies have assessed the thesis with neighborhood-level data (Skogan 1990; Taylor 1996; Taylor et al. 1985). In addition, two studies have used multiple waves of data to examine longitudinal patterns and reciprocal relationships (Markowitz et al. 2001; Taylor 2001). Overall, the evidence from these aggregate studies largely supports the hypothesis of an association between disorder and fear of crime.

The relationship between disorder and fear has also been examined at the individual level using measures of perceptions of disorder (Covington and Taylor 1991; Gibson et al. 2002; Lewis and Maxfield 1980; Taylor 1997). Most studies have found a positive and significant relationship between perceived disorder and fear of crime, although there is some evidence that social disorder is more strongly linked to fear than is physical disorder (LaGrange et al. 1992: 314; Rohe and Burby 1988). A few studies have been based on contextual analyses and have included disorder as a neighborhood-level variable in the prediction of individual perceptions (Covington and Taylor 1991; Taylor 1997; Taylor and Covington 1993). The results of these analyses also indicate that disorder is positively related to fear of crime.

Recently, advances in hierarchical linear modeling (HLM) have stimulated further efforts to examine the effects of both individual-level and contextual variables jointly. Research by Perkins and Taylor (1996) combines data from a survey of 412 residents in 50 Baltimore neighborhoods with systematic observations, archival data, and census data. The analyses include three neighborhood-level indices of disorder, along with three measures of disorder at the individual level and age. Their results indicate that disorder positively influences fear of crime after controlling for neighborhood level proportions of nonwhite, mean age, and proportion of females. A major limitation of the study is that the researchers were not able to test for an effect of gender at the individual level because in some blocks/neighborhoods, all respondents were women. The study only was able to control age at the individual level.

An additional important study is the work by Rountree (1998), which addresses the multi-dimensional nature of fear. Past research has distinguished an emotional dimension of fear, which more closely taps the psychological or physiological reactions of the respondents, from the cognitive dimension of fear, which taps perceptions of victimization risk (see also Ferraro 1995; Ferraro and LaGrange 1987). Rountree's study focuses on the emotional dimension of the fear of burglary and fear of violence. Her findings indicate significant effects of disorder on both fear of burglary and fear of violence.

Robinson et al. (2003) have conducted another multilevel study. Their analyses are based on two-wave survey data of 305 residents from 50 street blocks, each from one of the 50 neighborhoods sampled in the city of Baltimore. The two-wave data allow for the estimation of lagged effects of disorder on fear of crime. The analysis controls for demographic characteristics, house value, and percentage of homeowners at the street block level, as well as incivility in the initial wave. The results reveal a significant lagged effect of perception of disorder on fear of crime, but no lagged effect of a block-level measure of disorder on fear of crime.[1] An unfortunate limitation of this study is that it does not control for victimization experiences.

In addition to the vulnerability and disorder theories, prior research has also examined other factors related to fear of crime, such as the effect of social ties in the community (Ross and Jang 2000; Taylor 2002), the effect of crime prevention strategies (Norris and Kaniasty 1992), the effect of social status (Thompson and Norris 1992), and the effect of neighborhood attachment and satisfaction (Delisi and Regoli 2000; Loo 1986). These developments in community psychology literature have yielded convincing evidence to suggest that fear of crime is conditioned by the community and social context. Developing this general line of inquiry, our study addresses the topic of whether a "vulnerability" interpretation of the socio-demographic correlates fear of crime is universally applicable across widely divergent socio-cultural contexts.

In sum, an impressive body of research informed by the physical vulnerability thesis indicates that women and the elderly tend to report higher levels of fear compared with men and the younger population. Much research has also examined the hypotheses of social vulnerability and has found some support for the hypothesis, although the findings are less consistent than those pertaining to physical vulnerability. However, it is reasonable to speculate that these seemingly invariant correlates actually vary across social and community settings. In the late 1970s, analyses from the newly developed National Crime Survey in the US showed that many more citizens are afraid of being victimized than there are actual crime victims (Dubow et al. 1979; Cook and

[1] Wittebrood (2002) also employs a multilevel framework in the analysis of fear of crime using data for 16 Western industrialized nations from the International Crime Victims Survey (ICVS). Her results for individual-level variables are consistent with those widely observed in studies based on individual nations. Females, the elderly, and those with low SES exhibit high levels of fear. No significant effects are observed for contextual variables, which may reflect the fact that these are measured at the level of the nation. This may be too high a level of aggregation to capture the socially meaningful context.

Skogan 1984). Many of the disorder studies were initiated to account for this interesting phenomenon. Findings on the disorder/fear association suggest that conditions influencing perceptions of disorder would influence fear of crime. If some social or community contexts create a condition wherein different socio-demographic groups perceive different levels of disorder, the socio-demographic correlates of fear would not remain the same under such contexts; they would reflect the social and community contextual conditions. Thus, taking the disorder-fear relation literature into account, it is reasonable to infer that vulnerability alone is not responsible for the correlates of fear of crime; social and community contexts have an impact as well. We suggest that the Chinese setting is a strategic one in which to explore the influence of the social and community context on the socio-demographic correlates because the profound social change in China has created significant generational gaps in life styles that are likely to entail differential exposure to, and perceptions of, disorder.

Social and Economic Change in China

One contextual condition that may create differential perceptions of social life including disorder is rapid social change. Rapid social change can create a significant generational gap where members of the younger, more educated generation identify with newer life styles and expose themselves to modern aspects of social life, while the older, less educated generation may continue to identify with tradition. Under such a social context, the effects of age and education on fear of crime might differ from those observed under more stable social conditions.

China constitutes an ideal case to study the impact of social change. In the late 1970s, China began its economic reform. The social transition from a traditional state-dominated society to a society with market mechanisms has created very interesting features of social life. Scholars have pointed out that a distinguishing feature of the social transition is that it is under state control (Messner et al. 2007; Liu 2004). The reform has been largely directed by the state, which has also controlled the major industrial sectors that were considered vital to state security and the major media. At the same time, the free market has been allowed to expand into most other areas. The old social order and a new social order coexist.

This results in an interesting pattern of differential identification among populations. Much research reported in the Chinese literature has documented the intergenerational gap in China due to the rapid transformation of social life in China (Zhou 1994; Shen 2002; Guan 2005; Liao 2005). The older generation often continues to live a more traditional lifestyle, from time to time complaining how they miss good things from the "old days." The newer generation, on the other hand, enjoys new merchandise and technology, newly arrived entertainment, Western style freedom in their leisure time, including ways of life that previously would be considered "deviant" (Liao 2005; Guan 2005; Huo 2005; Chen 2006; Shen 2002; Zhou 1994).

One significant difference between generations is exposure to sources of information. The elderly are accustomed to living with the official state ideology and to depending on the government for information and direction in their lives. In contrast, members of the young and newly educated generation, who have grown up in a more open society, perceive a somewhat different political and social world. The young are exposed to the Internet, popular culture, and tabloid newspapers in contrast with newspapers that are organs of the state (Clode 2001; Cui 2006; Guo 2006; Song 2002; Xu 2004; Chen 2006).

Research in the Western literature has emphasized the importance of the media in influencing fear of crime. Newspapers, radio, and especially television profoundly influence people's perceptions of crime and disorder (Heath 1984; Heath and Petraitis 1987; Liska and Baccaglini 1990; O'Keefe and Reid-Nash 1987). A particularly noteworthy study is that by Winkel and Vrij (1990), which indicates that coverage by local, rather than national, press has a strong influence on fear.

The media in China have changed dramatically over the course of the past few decades. In pre-reform China, all media were tightly controlled by the state. These controls have been greatly loosened since the implementation of the reforms. Particularly obvious is the growing prevalence of non-government controlled local publications. While major media, the television, and the radio are still largely under state control, many local tabloid-style publications are sold on the streets of Chinese cities. The readership of these publications consists mainly of younger and more educated residents, while the older and less educated residents tend to continue to rely on television and the official newspapers for information on local and national matters (Song 2002; Xu 2004; Chen 2006; Clode 2001; Cui 2006; Guo 2006).

Differential exposure to media is also reflected in access to the Internet. Usage of the Internet has grown tremendously in urban China over the past two decades. Being less technically adroit, the elderly and the less educated tend to have less access to the Internet. In contrast, the Internet has become an essential component of the lives of the young and the educated (Clode 2001; Cui 2006; Guo 2006).

Hypotheses

It seems plausible to speculate that exposure to less governmentally controlled media fosters perceptions of more

local disorder. News of local social disorder, while highly unlikely to be reported on television and in the official media, spreads quickly through local tabloids and the Internet. Moreover, exposure to reports of growing crime in the nation at large via the unofficial media might also contribute to fear of crime above and beyond any impact on perceptions of community or neighborhood disorder.

We hypothesize that under a context of rapid social change, differential perceptions of social disorder can result from a generational gap. Elderly people with low levels of education who identify with the older social order may expose themselves to media that depict less disorder and may also engage in life styles that involve less exposure to disorderly settings, while the reverse may be true for young, educated people. If this is true, the correlation of age and education with fear of crime might be altered, with the younger and more educated being more fearful, in contrast to the conventional findings that the older and less educated are more fearful.

In contrast with these hypotheses based on premises about differential exposure to official vs. unofficial media, plausible alternative hypotheses about the impact of a generational gap on fear of crime in contemporary China can also be advanced.[2] The traditional orientations of the low educated, elderly population might make them particularly concerned about the passing of the relatively crime free, traditional social order, and thus they may be acutely sensitive to signs of social decay. In addition, the routine activities of the elderly and those with low education are likely to be more heavily concentrated within the neighborhood, which might increase exposure to "word-of-mouth" news about crime and disorder. Previous research by Villareal and Silva (2006) on social cohesion and perceived risk of victimization in a Brazilian city is consistent with this argument. They report that a high level of social cohesion "… increases the perceptions of neighborhood residents that they are at risk of being victimized," which they attribute to "… a greater level of communication regarding incidents of crime occurring in more cohesive neighborhoods where residents interact more frequently with each other" (Villareal and Silva 2006: 1747). Similar processes in urban China might very well foster socio-demographic correlations comparable to those observed in the West, i.e., the elderly and those with low levels of education would be more fearful than their counterparts.

To explore these hypotheses, we first examine the effects of socio-demographic characteristic on perceptions of disorder. We then assess the effects of these characteristics on fear of crime. Our analyses are based on original survey data from Tianjin, China.

Data and Methods

Sampling and Data Collection

The data were collected from a multi-stage survey of residents in the city of Tianjin, China, in 2004. Tianjin is one of the four municipalities directly under the control of the central government of the People's Republic of China, which gives Tianjin provincial-level status. At the end of 2004, the population of the Tianjin municipality was 10.24 million, of which 9.33 million were holders of Tianjin permanent residence (*hukou*). Among permanent residents of Tianjin, 59.64% of the population are urban residents, while 40.36% are rural residents.[3]

Our research team was comprised of the first three authors of the paper, working in collaboration with researchers from the Tianjin Academy of Social Sciences.[4] We used a multi-stage cluster sampling design that drew approximately 2,500 respondents who were 18 and over. Tianjin has 15 administrative districts and 3 counties. The sample includes 6 districts, including the Heping, Nankai, Hongxiao, Hexi, Hebei, and Hedong districts. Each district has approximately 6–10 City-Street Offices, which are the grass-roots organizations of the Tianjin government. We randomly selected two City-Street Offices from each of the selected districts, yielding a total of 12 City-Street Offices.

Next, we drew two large offices that included a relatively large number of neighborhood committees from the 12 selected City-Street Offices. Five neighborhood committees were then randomly selected from each of these two large City-Street Offices, while four neighborhood committees were randomly drawn from each of the remaining 10 City-Street Offices. A total of 50 neighborhood 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 neighborhood 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 neighborhood.

[2] We are grateful to an anonymous reviewer for suggesting these alternative hypotheses.

[3] This description of Tianjin is taken from the government statistics published online at http://www.stats-tj.gov.cn/2006nj/2/2-2.htm.

[4] We are especially grateful to Zhou Lu, former Director of Crime Research at the Tianjin Academy of Social Sciences, for his expert assistance with all major phases of the research.

Fifty-one households were selected from each of the 50 selected neighborhoods ($N = 2{,}550$) in hopes of reaching the target of 2,500 households. Using the household roster provided by the neighborhood committee in each selected neighborhood, the research team conducted systematic sampling. A starting point was randomly determined, and every eighth household from each neighborhood was selected until the specified number of households was obtained. Members of the research team went to selected households accompanied by a representative of the neighborhood committee to recruit respondents. To select a specific respondent from a household with more than one member 18 years old or older, a criterion date was established. The individual with a birthday closest to the criterion date was chosen to be the respondent.

Having secured agreement to participate from selected respondents, the representatives of the neighborhood committees arranged the specific site for the administration of the survey (e.g., common recreations areas) and made sure that the site was suitable (e.g., facilities such as tables and chairs were available). Data were collected through written questionnaires. No one was allowed to enter the site during the administration other than the respondents and members of the research team. The questionnaire was intended to be self-administered, although onsite members of the research team were allowed to clarify the meaning of questions only if requested. The overwhelming majority of respondents had an elementary school education or higher (97.4%), and thus illiteracy was not a problem.

We were careful to follow standard institutional review board (IRB) protocols to minimize any perceived pressures to participate. Respondents were assured of the voluntary nature of their participation, their right to refuse to answer questions, and the confidentiality of their responses. Respondents also received compensation for their participation. After respondents had completed the questionnaires, they were placed in large envelopes that were sealed and transmitted directly to the chief Tianjin researcher who secured them in a safe location.

A total of 2,474 valid questionnaires were obtained. Due to missing data for 2 cases on a couple of the household measures, the sample size for our analysis is 2,472. With respect to demographics, 51% of sampled respondents were male, 31% were young (18–34 years old), 46% were middle aged (ages 35–54), and 23% were in the older group (ages 55 or older) (see "Appendix").

Our response rate of 97% (2,474/2,550) is exceptionally high by Western standards. However, unusually high response rates are typical in surveys conducted in China (e.g. Bian 2001; Blau and Ruan 1990; Walder 1990, 1992, 1995). Our response rate is also similar to that obtained in an earlier survey conducted in 1994 in Beijing as part of the International Crime Victim Survey (ICVS; Zhu et al. 1995: 69). We will discuss possible implications of cross-cultural differences associated with survey administration in the "summary and conclusions" section below.

Measures

The primary dependent variables for our analyses are self-reported level of perceived disorder and fear of crime. As noted earlier, two dimensions of disorder are generally distinguished—physical and social. Recent literature has questioned the causal relationship between physical disorder and crime and fear (Sampson and Raudenbush 2004). In any event, our data set only contains indicators of social disorder, and thus our analyses are restricted to this dimension.

When designing appropriate items for disorder, we were guided by two considerations. On the one hand, it is important to follow the precedents of Western research to the extent possible to enhance comparability. On the other hand, the items must reflect the conception of disorder in China. Some of the typical measures of social disorder used in Western research are not appropriate in the Chinese setting. For example, public drinking and drunkenness in urban China are not deemed threatening to public order. The general populace and the local police often provide help to inebriated persons to go home, and these behaviors are not regarded as particularly threatening. Similarly, open solicitations for prostitution and drug dealing are rarely seen in public in Tianjin. In contrast, two dimensions of neighborhood activity often used to indicate disorder in the West are applicable in China as well. Rowdy and unsupervised teen groups are perceived as highly threatening behavior. In addition, fighting and quarrels among neighbors are matters of general concern.

Based on these considerations, we measure perceived social disorder with an index based on the following three items:

> "In the past six months, have you seen or heard youth groups fighting in your neighborhood?"
>
> "In the past six months, have you seen or heard young hooligans creating trouble in your neighborhood?"
>
> "In the past six months, have you seen or heard neighbors quarreling?"

The response categories to these three questions are: "often" (4); "sometimes" (3); "rarely" (2); and "never" (1). The measure of perceived social disorder is the sum of z-scores for these items (Alpha coefficient of reliability = 0.713). The items are group-mean centered in the analyses.

We also include as an independent variable a measure of neighborhood-level social disorder, which is based on the same set of items as is the individual-level measure, but aggregated to the neighborhood level. We computed the mean for these items for each of the 50 neighborhoods and summed the z-scores across the three aggregated items (Alpha coefficient of reliability = 0.793). See the Appendix for descriptive statistics.

As noted above, research has indicated that fear is a multidimensional construct encompassing an emotional dimension and a cognitive dimension. The former refers to the psychological or physiological reactions to the threat of victimization, while the later refers to perception of victimization risk (Ferraro and LaGrange 1987; Rountree 1998). In this study, we follow Rountree (1998) and focus on emotionally experienced fear. The specific measure is based on the response to the following question: "When you walk in the neighborhood that you live in at night, do you feel fear?"[5] The response categories are "not at all" (1), "somewhat" (2), and "very much" (3).

The measures of socio-demographic characteristics are as follows. Gender is a dummy variable scored in the direction of "female." Age is represented by two dummy variables for "young" (ages 18–34) and "middle aged" (ages 35–54). The 55 and over age group serves as the reference category. Education is an ordinal measure with three categories: "illiterate and elementary school" (0); "middle school" (1); or "college and above" (2). The measure of income refers to monthly income per person for members of the household living together. The categories for income are: "below 500 yuan" (1); "500–999 yuan" (2); "1,000–1,999 yuan" (3); "2,000–2,999 yuan" (4); "3,000–3,999 yuan" (5); "4,000 yuan and above" (6).

To examine the extent to which vulnerability might interpret the effects of socio-demographic characteristics, we include two direct indicators of vulnerability. They are respondents' ratings of physical strength and ratings of self-defense/alertness. The measure of physical strength is based on responses to the item: "How would you rate your health/strength?" The other indicator of vulnerability is based on responses to the item: "How do you rate your capability for self-defense/alertness about personal safety?" These two measures are scored as: "poor" (1); "average" (2); "good" (3); and "very good" (4). Higher scores thus indicate lower vulnerability.

We also control for past experience of violent or property victimization.[6] They reflect reports of having been the victim of robbery, assault, personal theft, or having been "swindled" during the past 5 years. Personal violent victimization is a dummy variable scored "1" for respondents who report being the victim of either robbery or assault during the reference period, while personal property victimization is a dummy variable scored "1" for those reporting being a victim of either of the two property offenses.

We further control for the neighborhood level of crime. We aggregated two kinds of self-reported victimization incidents that occurred in the neighborhood: bicycle theft at home and household burglary. The specific measures are the proportions of respondents reporting these respective offenses. We created a composite index of neighborhood crime by summing the z-scores for these two measures.

Finally, one important feature of the Chinese urban context today is the large number of rural migrants moving to cities to work and to look for work. There has been growing concern over poverty and crime in neighborhoods where rural migrants are concentrated (see Solinger 1999). We control for the effect of the presence of rural migrants in our estimation by including rural migrant concentration as a neighborhood-level variable. It is measured as the proportion of respondents who report that there are temporary rural laborers living in their neighborhood.

Analytic Strategy

We assess our hypotheses about fear of crime, which is an ordinal variable consisting of three categories, with hierarchical generalized linear ordered logistic regression (Raudenbush and Bryk 2002). We briefly explain this technique as follows.

For this three category ordinal dependent variable ($M = 3$), we derive two dummy variables Y_{1ij} and Y_{2ij} for case i in unit j as

$$Y_{mij} = 1 \quad \text{if } R_{ij} \leq m, \quad 0 \text{ otherwise.}$$

[5] Although the questionnaire item does not appear to mention crime specifically, respondents know that the purpose of the survey is to study criminal victimization, and the context implies that the answer refers to fear of crime. Similar measures of fear of crime have long been used in the Western literature (e.g. Hindelang et al. 1978: 176).

[6] Several studies in the West report that past victimization predicts fear of crime (Braungart et al. 1980; Garofalo 1979; Skogan and Maxfield 1981), but other studies cast doubt on this conclusion (Baumer 1985; Hindelang et al. 1978; McGarrell and Giacomazzi 1997; Gates and Rohe 1987; Liska et al. 1988; Garofalo and Laub 1978; Quann and Hung 2002). Cross-national comparisons also indicate that while victimization tends to be associated with fear of crime in different nations, the strength of the association is variable (Quann and Hung 2002). These findings suggest that the correlation between victimization and fear of crime may be conditioned by the larger cultural context (Murck 1997).

For example, with $M = 3$, we have

$$Y_{1ij} = 1 \quad \text{if } R_{ij} = 1$$
$$Y_{2ij} = 1 \quad \text{if } R_{ij} \leq 2$$

The probabilities $\text{Prob}(Y_{mij} = 1)$ are thus cumulative probabilities. For example, with $M = 3$,

$$\text{Prob}(Y_{1ij} = 1) = \text{Prob}(R_{ij} = 1) = \phi_{1ij}$$
$$\text{Prob}(Y_{2ij} = 1) = \text{Prob}(R_{ij} = 1) + \text{Prob}(R_{ij} = 2) = \phi_{2ij}$$
$$\text{Prob}(Y_{3ij} = 1) = \text{Prob}(R_{ij} = 1) + \text{Prob}(R_{ij} = 2) + \text{Prob}(R_{ij} = 3) = 1.$$

Since $Y_{3ij} = 1 - Y_{2ij}$, Y_{3ij} is redundant. We actually need only $M - 1$ dummy variables.

Associated with the cumulative probabilities are the cumulative logit link functions,

$$\eta_{mij} = \log\left(\frac{\text{Prob}(R_{ij} \leq m)}{\text{Prob}(R_{ij} > m)}\right) = \log\left(\frac{\phi_{mij}}{1 - \phi_{mij}}\right).$$

The level-1 structural model assumes "proportional odds",

$$\eta_{mij} = \beta_{0j} + \sum_{q=1}^{Q} \beta_{qj} X_{qij} + \sum_{m=2}^{M} \delta_m.$$

Under the proportional odds assumption, the relative odds that $R_{ij} \leq m$, associated with a unit increase in the predictor, does not depend on m.

Here δ_m is a "threshold" that separates categories $m - 1$ and m. For example, when $M = 4$,

$$\eta_{1ij} = \beta_{0j} + \sum_{q=1}^{Q} \beta_{qj} X_{qij}$$
$$\eta_{2ij} = \beta_{0j} + \sum_{q=1}^{Q} \beta_{qj} X_{qij} + \delta_2$$
$$\eta_{3ij} = \beta_{0j} + \sum_{q=1}^{Q} \beta_{qj} X_{qij} + \delta_2 + \delta_3.$$

We initially estimate an intercept only model to assess whether there is significant variation in fear of crime across neighborhoods in the sample. Next, we examine the effects of the socio-demographic variables on fear of crime, followed by the indicators of vulnerability and measures of personal victimization. The measures of individual perceptions of disorder and neighborhood-level disorder are then added to the models, along with the remaining neighborhood-level variables.

Our measure of perceived disorder is based on a composite index. Accordingly, we apply the standard hierarchical linear model in the analyses where perceived disorder serves as the dependent variable (Raudenbush and Bryk 2002: 317–322). Similar to the analyses of fear of crime, we begin by estimating an intercept only model of perceived social disorder, and then proceed to build the models by entering the individual and neighborhood-level predictors sequentially.

Results

We first examine the associations between socio-demographic characteristics and differential perceptions of social disorder by estimating a set of hierarchical regression models. The results are reported in Table 1.

We begin with an intercept only model (Model 1). The variance component of the intercept is statistically significant (tau = 0.435, $p < 0.01$),[7] indicating that perceived disorder varies across the neighborhoods in the sample. Model 2 includes four demographic variables. Consistent with the hypothesis about differential exposure to traditional vs. untraditional media, young and middle age respondents perceive significantly more disorder (the reference category is the elderly). Also, education significantly increases perceived disorder. These results are obtained after controlling for the effects of gender and income, although neither of these variables exhibits a significant effect on perceived disorder.

Model 3 adds the two measures of vulnerability. Neither coefficient is statistically significant.[8] Model 4 adds the two measures of victimization to the model. Not surprisingly, both violent victimization ($b = 1.054$; $p < 0.01$) and personal property victimization ($b = 0.489$; $p < 0.01$) increase perceived disorder. These results are intuitively reasonable: respondents who report criminal victimization have higher levels of perceived disorder. Model 5 adds the neighborhood crime index into the model. The coefficient for the neighborhood crime index is not statistically significant.

Finally, Model 6 controls for rural migrant concentration. The effect on disorder is statistically significant, indicating that the perception of more migrant workers living in the neighbor increases perceived disorder. The effects of all other variables are essentially not changed.

We next assess the effects of the socio-demographic characteristics on fear of crime by estimating a set of HGLM models of fear of crime. The results are reported in

[7] We also calculated the intra-class correlation for the unconditional model. It is 0.03, suggesting that the size of the clustering effects over 50 neighborhoods on average is not large, even though the variation of perceived disorder across the neighborhoods is statistically significant.

[8] Our interpretation here assumes that self-assessments of vulnerability might exert a causal inference on perceptions of disorder. A reverse causal process is plausible on logical grounds for self-defense/alertness. Perceiving the neighborhood to be disorderly might stimulate residents to develop the capacity for alertness. As noted, the coefficients for the vulnerability measures are non-significant.

Table 1 Hierarchical regression of perceived disorder

Variables	1	2	3	4	5	6
Fixed effects						
Intercept	0.0135 (0.0769)	−0.6266** (0.1470)	−0.5913* (0.2191)	−0.6922** (0.2163)	−0.6978 (0.2153)	−0.8896** (0.2213)
Demographic variables						
Young	–	0.4983** (0.1371)	0.5218** (0.1527)	0.4449** (0.1558)	0.4470** (0.1557)	0.4437** (0.1557)
Middle age	–	0.3977** (0.1191)	0.4011** (0.1202)	0.3799** (0.1210)	0.3814** (0.1212)	0.3775** (0.1215)
Education	–	0.2881* (0.1160)	0.2860* (0.1171)	0.2636* (0.1135)	0.2626* (0.1137)	0.2633* (0.1134)
Female	–	−0.1266 (0.0869)	−0.1372 (0.0860)	−0.1385 (0.0871)	−0.1386 (0.0871)	−0.1385 (0.0867)
Income	–	0.0177 (0.0543)	0.0240 (0.0545)	0.0184 (0.0542)	0.0204 (0.0538)	0.0235 (0.0537)
Vulnerability						
Strength	–	–	−0.0687 (0.0831)	−0.0605 (0.0824)	−0.0604 (0.0823)	−0.0585 (0.0821)
Self-defense/alertness	–	–	0.0475 (0.0756)	0.0633 (0.0765)	0.0638 (0.0766)	0.0663 (0.0764)
Victimization experience						
Personal violent victimization	–	–	–	1.0540** (0.3078)	1.0509** (0.3082)	1.0478** (0.3091)
Personal property victimization	–	–	–	0.4893** (0.1411)	0.4895** (0.1410)	0.4912** (0.1407)
Neighborhood crime	–	–	–	–	0.0386 (0.0463)	0.0310 (0.0456)
Rural migrant concentration	–	–	–	–	–	2.3328* (1.1417)
Random effects						
Intercept, τ_{00}						
σ	0.1888	0.1973	0.1979	0.2056	0.2088	0.1892
χ^2	131.1965**	135.8709**	136.0433**	140.6408**	126.3224	109.4104**

* $p < 0.05$, ** $p < 0.01$

Table 2. Once again, Model 1 is an intercept only model. The variance component of the intercept is statistically significant (tau = 0.273, $p < 0.01$), indicating that fear of crime, similar to perceived disorder, varies significantly across the neighborhoods in the sample.

Model 2 introduces the socio-demographic characteristics. The effect of age differs dramatically from results commonly reported in the West. While there is no significant difference between the middle aged and the elderly (the reference category), the young exhibit a significantly higher level of fear ($b = 0.359$, $p < 0.05$). Our findings for age in a Chinese city are thus the reverse of the commonly observed pattern. Education is also significantly related to fear, but as with age, the sign of the relationship is opposite to that reported in the Western context ($b = 0.235$, $p < 0.05$). The highly educated (and presumably less socially vulnerable) are more fearful.

With respect to the other demographic characteristics, being female exhibits a significant positive association ($b = 1.687$, $p < 0.01$) with fear of crime. This is consistent with the conventional "physical vulnerability" interpretation. The effect of income is significantly negative ($b = -0.103$, $p < 0.05$), which is in accord with the "social vulnerability" interpretation.

The two direct indicators of vulnerability are entered into the equation in Model 3. Both measures exhibit the expected negative associations. Respondents who consider themselves fit and strong and those who rate their self-defense capabilities and alertness highly have lower levels of fear. These two variables statistically interpret the income effect observed in Model 2 but fail to interpret the effects of gender, age, and education. Indeed, the age effect becomes notably stronger when the indicators of vulnerability are taken into account.[9]

The two measures of personal victimization are added to the equation in Model 4. The coefficients for both are positive and statistically significant. Including the measures of personal victimization has little impact on the estimated parameters for the other individual characteristics. Next, perceived disorder is included in Model 5. The coefficient for the index of perceived disorder is consistent with the literature; it is significantly positive. Respondents who detect disorderly behavior in their neighborhood report higher levels of fear. Disorder accounts for the effect of personal victimization, indicating that the effect of personal victimization on fear is mediated by disorder.

Model 6 adds neighborhood disorder to the analyses. The coefficient for neighborhood disorder is in the expected, positive direction, and it reaches statistical significance. These results indicate that respondents who live in neighborhoods characterized by a high degree of disorder are more fearful than others, controlling for their individual characteristics, personal experiences with criminal victimization, as well as their own perceived disorder. Model 7 adds the neighborhood crime index into the model. The effect of this variable is non-significant, suggesting that any impact of neighborhood crime on fear of crime is transmitted through other variables in the model. Model 8 adds rural migrant concentration; the effect is not statistically significant. This finding in conjunction with those in Table 1 suggest that rural migrant concentration affects fear of crime indirectly through its impact on perceived disorder. The results for age, education, and other variables do not change when the neighborhood-level indicators are included.

Summary and Conclusions

A dominant Western theory in the literature on fear of crime is vulnerability theory, which typically uses socio-demographic characteristics as indicators of the vulnerability of individuals. A large volume of Western research has repeatedly replicated findings that are consistent with this theory. Women and the elderly exhibit higher levels of self-reported fear of crime, consistent with the physical vulnerability thesis, while those with lower income and less education tend to report higher levels of fear of crime, consistent with the social vulnerability thesis. A theoretically important question is that whether the interpretation of socio-demographic correlates as indicators of vulnerability holds despite variations in socio-cultural context.

China has been experiencing rapid social change over the past two and half decades and thus provides an excellent setting to address this question. Our strategy has been to include measures of vulnerability (self-reported strength and self-defense/alertness) into the models to capture some of the direct effect of vulnerability, and to examine the nature of socio-demographic correlates of fear within the context of contemporary urban China. Our results are consistent with those commonly reported in the West in some respects but quite different in others.

Among the consistent results, females exhibit higher levels of fear than do males. This finding is in accord with the physical vulnerability interpretation. However, we also observe that the female effect persists with the direct vulnerability measures included—the measures of self-reported strength and self-defense capacity. Indeed, the tendency for females to be more fearful is virtually unchanged when the indicators of vulnerability are entered into the regression model. The sturdy gender effect might be explained with reference to Warr's (1984) concept of "differential

[9] We performed Hausman (1978) tests for the statistical significance of the differences in coefficients across Models 2 and 3 for "income" and "young." Both differences are statistically significant.

Table 2 Ordered hierarchical logistic regression of fear of crime

Variables	1	2	3	4	5	6	7	8
Fixed effects								
Intercept	−3.4520** (0.1134)	−4.8619** (0.2317)	−3.7387** (0.2500)	−3.7932** (0.2568)	−3.7830** (0.2649)	−3.7997** (0.2642)	−3.8099** (0.2682)	−3.8284** (0.2856)
Demographic variables								
Young	–	0.3590* (0.1572)	0.5993** (0.1688)	0.5713** (0.1681)	0.5365** (0.1593)	0.5351** (0.1586)	0.5405** (0.1587)	0.5400** (0.1585)
Middle age	–	0.1241 (0.1383)	0.2108* (0.1380)	0.2050* (0.1391)	0.1679 (0.1390)	0.1708 (0.1404)	0.1749 (0.1406)	0.1742 (0.1406)
Education	–	0.2354* (0.1051)	0.2924* (0.1063)	0.2763* (0.1049)	0.2162* (0.1044)	0.2185* (0.1047)	0.2157* (0.1045)	0.2163* (0.1048)
Female	–	1.6872** (0.1053)	1.6862** (0.1083)	1.6883** (0.1098)	1.7696** (0.1134)	1.7741** (0.1147)	1.7741** (0.1151)	1.7748** (0.1152)
Income	–	−0.1028* (0.0461)	−0.0476 (0.0501)	−0.0523 (0.0504)	−0.0556 (0.0555)	−0.0521 (0.0550)	−0.0410 (0.0558)	−0.0492 (0.0560)
Vulnerability								
Strength	–	–	−0.1710** (0.0635)	−0.1697** (0.0631)	−0.1625** (0.0655)	−0.1635** (0.0654)	−0.1628* (0.0654)	−0.1626* (0.0652)
Self-defense/alertness	–	–	−0.4063** (0.0685)	−0.3974** (0.0677)	−0.4198** (0.0678)	−0.4207** (0.0680)	−0.4196** (0.0681)	−0.4193** (0.0682)
Victimization experience								
Personal violent victimization	–	–	–	0.4967* (0.2316)	0.3084 (0.2459)	0.3079 (0.2468)	0.3003 (0.2475)	0.2997 (0.2475)
Personal property victimization	–	–	–	0.2562* (0.1226)	0.1827 (0.1246)	0.1852 (0.1243)	0.1849 (0.1244)	0.1851 (0.1241)
Perceived disorder	–	–	–	–	0.1896** (0.0238)	0.1898** (0.0238)	0.1898** (0.0238)	0.1898** (0.0238)
Neighborhood disorder	–	–	–	–	–	0.0820** (0.0220)	0.0797** (0.0215)	0.0783** (0.0221)
Neighborhood crime	–	–	–	–	–	–	0.0406 (0.0441)	0.0404 (0.0446)
Rural migrant concentration	–	–	–	–	–	–	–	0.1833 (0.9475)
Random effects								
Intercept, τ_{00}								
σ	0.2730	0.3357	0.3372	0.3360	0.3450	0.2844	0.2978	0.3050
χ^2	87.4400**	100.1651**	99.4270**	98.8654**	100.1411**	81.6080**	81.2312**	81.1769**

* $p < 0.05$, ** $p < 0.01$

sensitivity to risk." According to this interpretation, women are more likely to judge potential victimization as serious because they make subjective linkages among offenses. For example, women are more likely to link burglary or robbery with sexual assault and murder. Hence, even though the objective level of risk of victimization tends to be lower for women, they tend to be more fearful than men. It seems plausible that similar processes would emerge in China, but further research is needed to demonstrate such gender differentials in sensitivity to risk.

Also consistent with the Western research, both measures of victimization experience, violent victimization and property victimization, exhibit significant effects on fear of crime. Victims are more fearful than non-victims. In addition, individual perceived disorder is positively associated with a higher level of fear, as is disorder measured at the neighborhood level. We also find that low-income respondents exhibit more fear of crime, which is consistent with the vulnerability interpretation. Interestingly, however, the income effect is statistically interpreted by our two direct indicators of vulnerability, which reflect to a large degree "physical" vulnerability (strength/self-defense capability). These findings suggest that aspects of social and physical vulnerability are potentially overlapping. More generally, the replication of selected socio-demographic correlates suggests that some of the theoretical interpretations of fear of crime developed in the West are transferable to a very different socio-cultural context.

Our analysis of perceived disorder also yields an interesting parallel with Western research. Sampson and Raudenbush (2004) have discovered that the presence of disadvantaged, stigmatized groups is an important factor leading residents to think that their neighborhood is disordered, net of other relevant factors. Specifically, the concentration of Black and Latino neighbors is positively related to perceived disorder. In urban China, the rural migrant population constitutes a stigmatized, disadvantaged group. Our finding of a significant positive effect of the measure of rural migrant concentration on perceived disorder thus replicates and extends the research in the West on links between stigmatization and perceptions of disorder.

At the same time, we call particular attention to key findings that differ from those commonly reported in research in the West. Specifically, age and education relate to fear of crime in a distinctly different way. Under the context of rapid social transition occurring during the past two and half decades in China, the elderly report lower levels of fear of crime, while the more educated report higher levels of fear. The results also indicate significant differences in *perceived disorder* between the young and the aged, and between the educated and less educated. The younger generation and educated people perceive significantly more social disorder. This set of findings is consistent with the underlying premise that there is differential exposure to information about disorder across generations and educational levels in China, which contributes to a different social patterning of fear of crime. These findings challenge the long standing interpretation of socio-demographic correlates in the literature of fear of crime and provide evidence calling for a significant revision of vulnerability theory to take into account of the effect of socio-cultural contexts. The effects of socio-demographic characteristics on fear of crime evidently are not simply a consequence of a universal vulnerability associated with them; rather, they also reflect differential exposure to social conditions such as disorder, which contributes to fear of crime.

Some of our findings have important implications for Chinese society in terms of reducing fear of crime. First, the results show that social disorder is a salient source of fear of crime. Moreover, perceived disorder is found to mediate the effect of many important variables, including personal victimization. These finding suggest that a cost effective way to lessen fear might be to allocate more resources to reducing social disorder. Particularly important is disorderly conduct that appears to be threatening and tends to be interpreted as threatening the safety of citizens.

Second, our results are consistent with the view that the generational and educational gap in fear of crime under the Chinese context is linked to differential exposure to the media. In Western society, research has long found that the media tend to exaggerate the frequency and seriousness of crime. Our findings suggest that the influence of the media is equally important in China. However, the nature of distortion is somewhat different within the Chinese context. Local tabloids and the internet are less controllable by the government, and it is plausible to speculate that they play a similar role as do the media in the West—they exaggerate the frequency and seriousness of crimes and disorder. The policy implication is that citizens should be encouraged to adopt a critical stance in evaluating the content on crime and disorder presented in the local tabloids and on the internet. At the same time, however, it is important to recognize that the state-controlled media—the major TV stations and official newspapers—tend to distort the information in a reverse way by reporting little on crime and disorder. Perhaps the academic community can foster a more critical stance towards the full range of media conveying information on crime and disorder, although the prospects for this are obviously limited by the political realities in contemporary China.

We acknowledge significant limitations associated with our study that implies the need for caution in the interpretation of the results. First, our data are cross-sectional in nature, which in some instances hinders efforts to draw causal inferences. This is not problematic for socio-demographic variables that are immutable or relatively

stable. However, the relationship between disorder and fear has been found to be reciprocal (e.g. Liu 1993; Liska and Warner 1991), and such reciprocal causal processes cannot be detected in the cross-sectional data.

Second, our sample is limited in that we only selected respondents from traditional areas of the city. As noted above, Tianjin has large numbers of the so-called "floating population" (see Liang 2001; Liang and Ma 2004). These rural migrants tend to live outside of the traditional areas. Governmental officials and the Chinese public generally attribute the problem of growing crime to the presence of rural migrants (Zhao 2003; Zhao and Kipnis 2000). The sampling of the traditional areas of the city implies that the neighborhoods with high rural migrant concentration are not likely to be included in the sample. This is confirmed by the descriptive statistics for the "rural migrant concentration" variable. The mean is 0.08, and the maximum value is 0.33. Thus, in an average neighborhood, under 10% of the respondents report that there are rural migrants, and in the neighborhood with the highest value on the variable, about a third report the presence of a rural migrant population. The survey data is accordingly likely to underestimate fear of crime and perceived disorder in Tianjin. However, the statistically significant effect of migrant concentration on perceived disorder indicates that the bias in sampling dose not preclude identification of substantively important effects of the measure of migrants. Nevertheless, future research targeted more directly on the "floating population" is needed to draw a more complete portrait of disorder and fear in urban China.

A third important limitation is that the data are unable to address key hypothesized mechanisms. Note in particular that we have no direct measures of actual exposure to different media sources and content. Our premises about generational and educational differences in exposure to official and unofficial media are firmly grounded in the contemporary literature (e.g. Heath and Gilbert 1996; Zhou 1994; Xu 2004), but further research is required with direct measures of assumed intervening variables to document the postulated causal mechanisms.

At a more general level, we caution that there are appreciable cross-cultural differences in survey administration that need to be taken into account when interpreting the results. We noted earlier that our response rate is remarkably high when compared to surveys in the West. This probably reflects significant differences in social organization and cultural settings between Western society and Chinese urban communities. The Chinese urban community is known to be highly organized. Residents in neighborhoods elect the neighborhood committee. Traditionally, the neighborhood committee has managed many daily matters in the neighborhoods ranging from assisting elders to distributing government subsidies to low income families, from neighborhood watches to family planning (Whyte and Parish 1984). The activities have been financially subsidized by the government and guided by governmental policy. Although the role of the neighborhood committee has been changing over time, especially after the economic reform, it continues to be an important recourse for Chinese urban residents. It is typically the fist place to turn when seeking help.

When respondents were recruited for the Tianjin survey with the assistance of members of the neighborhood committee, the study would be perceived to have legitimacy, and the respondents would likely feel encouraged to cooperate. Also, the neighborhood committee members have social relationships with prospective respondents who live in the same community. Both of these factors might have made sampled residents reluctant to refuse to participate, despite our repeated assurances of the voluntary nature of the research. The high degree of cooperation is of course very advantageous in one important respect. It implies that there is very little bias associated with the discrepancy between the sampled population and the survey population. On the other hand, the involvement of the neighborhood committee for the recruitment of participants and for the administration of the survey may have had the undesirable effect of influencing the kinds of responses given on the questionnaire. Only future research on survey administration within the Chinese context can shed light on the nature and extent of such biases.

With these cautions in mind, we suggest that our analyses underscore the utility of extending the horizons of inquiry into perceived disorder and fear of crime beyond the confines of Western societies. Some of the relationships well documented in the West appear to be robust across socio-cultural contexts, but the identification of distinctive patterns in the social structuring of these phenomena suggests that much is still to be learned about the underlying processes, especially under conditions of social transformation. We accordingly call for further efforts to assess systematically the applicability of Western criminological theories and to replicate Western findings in China and other non-Western settings.

Acknowledgements This material is based upon work supported by the National Science Foundation under Grant No. 0351014. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Appendix

See Table 3.

Table 3 Descriptive statistics for variables

Variable	Mean	SD	Minimum	Maximum
Dependent variable				
Fear of crime	2.66	0.54	1.00	3.00
Level 1				
Independent variables				
Female	0.49	0.50	0.00	1.00
Young	0.31	0.46	0.00	1.00
Middle age	0.46	0.50	0.00	1.00
Education	1.14	0.54	0.00	2.00
Income	1.91	0.91	1.00	6.00
Physical strength	2.50	0.88	1.00	4.00
Self-defense/alertness	2.60	0.78	1.00	4.00
Personal violent victimization	0.03	0.18	0.00	1.00
Personal property victimization	0.15	0.36	0.00	1.00
Perceived disorder	0.01	2.39	−3.16	9.52
Level 2				
Neighborhood disorder	−0.00	2.52	−6.19	5.51
Neighborhood crime	0.00	1.51	−3.22	4.13
Rural migrant concentration	0.08	0.07	0.00	0.33

References

Baumer, T. L. (1985). Testing a general model of fear of crime: Data from a national sample. *Journal of Research in Crime and Delinquency, 22*, 239–255.

Bian, Y. (2001). Guanxi capital and social eating in Chinese cities: Theoretical models and empirical analyses. In N. Lin, K. Cook, & R. S. Burt (Eds.), *Social capital: Theory and research* (pp. 275–295). New York, NY: Walter De Gruyter.

Blau, P. M., & Ruan, D. (1990). Inequality of opportunity in urban China and America. In A. L. Kalleberg (Ed.), *Research in stratification and mobility* (pp. 3–32). Greenwich, CT: JAI Press.

Braungart, M. M., et al. (1980). Age, sex, and social factors in fear of crime. *Sociological Forces, 13*, 55–56.

Chen, S. (2006). The negative factors of the media that influence moral education and the counter strategies. *News Theory Studies, 1*, 19–21.

Clemente, F., & Kleiman, M. B. (1977). Fear of crime in the United States: A multivariate analysis. *Social Forces, 56*, 519–531.

Clode, J. (2001). Review of Meiti Zhongguo (Media China). *The China Journal, 46*, 154–156.

Cook, F. L., & Skogan, W. G. (1984). Evaluating the changing definition of a policy issue in congress: Crime against the elderly. In H. R. Rodgers Jr (Ed.), *Public policy and social institutions* (pp. 287–332). Greenwich, CT: JAI Press.

Covington, J., & Taylor, R. B. (1991). Fear of crime in urban residential neighborhoods: Implications of between and within neighborhood sources for current models. *Sociological Quarterly, 32*, 231–249.

Cui, V. (2006). *China: Newspaper readership giving way to internet*. Retrieved April 20, 2006, from http://www.asiamedia.ucla.edu/article-eastasia.asp?parentid=43267.

DeLisi, M., & Regoli, B. (2000). Individual neighborhood attachment and perceptions of neighborhood safety. *American Journal of Criminal Justice, 24*(2), 181–188.

Dubow, F., McCabe, E., & Kaplan, G. (1979). *Reactions to crime: A critical review of the literature*. Washington, DC: National Institute of Law Enforcement and Criminal Justice, US Government Printing Office.

Ferraro, K. F. (1995). *Fear of crime: Interpreting victimization risk*. Albany: SUNY press.

Ferraro, K. F., & LaGrange, R. (1987). The measurement of fear of crime. *Sociological Quarterly, 57*, 70–101.

Garofalo, J. (1979). Victimization and fear of crime. *Journal of Research in Crime and Delinquency, 16*, 80–97.

Garofalo, J., & Laub, J. (1978). Fear of crime: Broadening our perspectives. *Victimology, 3*, 242–253.

Gates, L. B., & Rohe, W. M. (1987). Fear and reactions to crime: A revised model. *Urban Affairs Quarterly, 22*, 425–453.

Gibson, C. L., et al. (2002). Social integration, individual perceptions of collective efficacy, and fear of crime in three cities. *Justice Quarterly, 19*, 537–564.

Guan, A. (2005). Social transformation and moral crisis. *Journal of Huaiying Normal University, 27*, 603–606.

Guo, L. (2006). *2005 China internet survey report*. Retrieved April 20, 2006, from http://www.wipchina.org/.

Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica, 46*, 1251–1271.

Heath, L. (1984). Impact of newspaper crime reports on fear of crime. *Journal of Personality and Social Psychology, 47*, 236–276.

Heath, L., & Gilbert, K. (1996). Mass media and fear of crime. *American Behavioral Scientist, 39*(4), 379–386.

Heath, L., & Petraitis, J. (1987). Television viewing and fear of crime: Where is the mean world? *Basic and Applied Social Psychology, 8*, 97–123.

Hindelang, M. J., et al. (1978). *Victims of personal crime*. Cambridge, MA: Ballinger.

Huo, L. (2005). Moral consensus and the destiny of modern society. *Philosophical Studies, 3*, 24–30.

Kennedy, L. W., & Silverman, R. A. (1985). Significant others and fear of crime among the elderly. *International Journal of Aging and Human Development, 20*, 241–256.

Kurtz, E., Koons, B., & Taylor, R. B. (1998). Land use, physical deterioration, resident-based control and calls for service on urban streetblocks. *Justice Quarterly, 15*, 121–149.

LaGrange, R. L., & Ferraro, K. F. (1989). Assessing age and gender differences in perceived risk and fear of crime. *Criminology, 28*, 137–151.

LaGrange, R. L., Ferraro, K. F., & Supancic, M. (1992). Perceived risk and fear of crime: Role of social and physical incivilities. *Journal of Research in Crime and Delinquency, 29*, 311–334.

Lewis, D. A., & Maxfield, M. G. (1980). Fear in the neighborhoods: An investigation of the impact of crime. *Journal of Research in Crime and Delinquency, 17*, 160–189.

Lewis, D. A., & Salem, G. (1986). *Fear of crime: Incivility and the production of a social problem*. New Brunswick, NJ: Transaction Books.

Liang, Z. (2001). The age of migration in China. *Population and Development Review, 27*, 499–524.

Liang, Z., & Ma, Z. (2004). China's floating population: New evidence from the 2000 census. *Population and Development Review, 30*, 467–488.

Liao, X. (2005). Intergenerational differentiation of values and its essence. *Henan Social Sciences, 13*, 88–91.

Liska, A. E., & Baccaglini, W. (1990). Feeling safe by comparison: Crime in the newspapers. *Social Problems, 37*, 360–374.

Liska, A. E., & Warner, B. D. (1991). Functions of crime: A paradoxical process. *The American Journal of Sociology, 96*(6), 1441–1463.

Liska, A. E., et al. (1988). Fear of crime and constrained behavior: Specifying and estimating a reciprocal effects model. *Social Forces, 66*, 827–837.

Liu, J. (1993). *Functions of crime: A theory and a research agenda*. Unpublished Ph.D Dissertation State University of New York at Albany, Albany.

Liu, J. (2004). Social transition and crime in China: An economic motivation thesis. *The Australian and New Zealand Journal of Criminology, 37*(Suppl.), 122–138.

Loo, C. (1986). Neighborhood satisfaction and safety: A study of a low-income ethnic area. *Environment and Behavior, 18*(1), 109–131.

Markowitz, F. E., Bellair, P. E., Liska, A. E., & Liu, J. (2001). Extending social disorganization theory: Modeling the relationships between cohesion, disorder, and fear. *Criminology, 39*, 293–319.

McGarrell, E. F., & Giacomazzi, A. L. (1997). Neighborhood disorder, integration, and the fear of crime. *Justice Quarterly, 14*, 479–500.

Messner, S. F., Liu, J., & Karstedt, S. (2007). Economic reform and crime in contemporary China: An assessment of criminological paradigms. In J. Logan (Ed.), *Urban China in transition*. Malden, MA: Blackwell.

Murck, M. (1997). Victimization and fear of crime in Western Europe. *Security Journal, 9*, 163–164.

Norris, F. H. (1992). A longitudinal study of the effects of various crime prevention strategies on criminal victimization, fear of crime, and psychological distress. *American Journal of Community Psychology, 20*(5), 625–648.

Norris, F. H., & Kaniasty, K. (1992). Reliability of delayed self-reports in disaster research. *Journal of Traumatic Stress, 5*(4), 575–588.

O'Keefe, G. J., & Reid-Nash, K. (1987). Crime news and real-world blues: The effects of the media on social reality. *Communications Research, 14*, 147–163.

Perkins, D. D., Florin, P., Rich, R. C., Wandersman, A., & Chavis, D. M. (1990). Participation and the social and physical environment of residential blocks: Crime and community context. *American Journal of Community Psychology, 18*(1), 83–115.

Perkins, D. D., Meeks, J. W., & Taylor, R. B. (1992). The physical environment of street blocks and resident perceptions of crime and disorder: Implications for theory and measurement. *Journal of Environmental Psychology, 12*, 21–34.

Perkins, D. D., & Taylor, R. B. (1996). Ecological assessments of community disorder: Their relationship to fear of crime and theoretical implications. *American Journal of Community Psychology, 24*(1), 63–107.

Quann, N., & Hung, K. (2002). Victimization experience and the fear of crime: A cross-national study. In P. Niewbeerta (Ed.), *Crime victimization in comparative perspective: Results from the international crime victims survey, 1989-2000*. Annandale, NSW, Australia: Federation Press.

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. Thousand Oaks, CA: Sage Publications.

Riger, S. (1985). Crime as an environmental stressor. *Journal of Community Psychology, 13*(3), 270–280.

Riger, S., LeBailly, R. K., & Gordon, M. T. (1981). Community ties and urbanites' fear of crime: An ecological investigation. *American Journal of Community Psychology, 9*(6), 653–665.

Robinson, J. B., Lawton, B. A., Taylor, R. B., & Perkins, D. D. (2003). Multilevel longitudinal impacts of incivilities: Fear of crime, expected safety, and block satisfaction. *Journal of Quantitative Criminology, 19*(3), 237–274.

Rohe, W. M., & Burby, S. J. (1988). Fear of crime in public housing. *Environment and Behavior, 20*, 700–720.

Ross, C. E., & Jang, S. J. (2000). Neighborhood disorder, fear, and mistrust: The buffering role of social ties with neighbors. *American Journal of Community Psychology, 28*(4), 401–420.

Rountree, P. W. (1998). A reexamination of the crime-fear linkage. *Journal of Research in Crime and Delinquency, 35*, 347–372.

Sampson, R. J., & Raudenbush, S. W. (2004). Seeing disorder: Neighborhood stigma and the social construction of "broken windows". *Social Psychology Quarterly, 67*, 319–342.

Shen, R. (2002). Review of intergenerational studies in China. *Journal of Hebei Vocation-Technical Teachers University (Social Sciences), 1*, 103–108.

Skogan, W. G. (1990). *Disorder and decline: Crime and the spiral of decay in American neighborhoods*. New York: Free Press.

Skogan, W. G., & Maxfield, M. G. (1981). *Coping with crime: Individual and neighborhood differences*. Beverly Hills, CA: Sage.

Solinger, D. J. (1999). Demolishing partitions: Back to beginnings in the cities. *China Quarterly, 159*, 629–639.

Song, W. (2002). Differential media and multiple perspectives. *News University, 1*, 1–15.

Taylor, R. B. (1996). Neighborhood responses to disorder and local attachments: The systemic model of attachment, social disorganization, and neighborhood use value. *Sociological Forum, 11*, 41–74.

Taylor, R. B. (1997). Social order and disorder of streetblocks and neighborhoods: Ecology, microecology, and the systemic model of social disorganization. *Journal of Research in Crime and Delinquency, 33*, 113–155.

Taylor, R. B. (2001). *Breaking away from broken windows: Baltimore evidence and implications for the nationwide fight against crime, grime, fear, and decline*. New York: Westview Press.

Taylor, R. B. (2002). Fear of crime, social ties, and collective efficacy: Maybe masquerading measurement, maybe Deja Vu all over again. *Justice Quarterly, 19*(4), 773–792.

Taylor, R. B., & Covington, J. (1993). Community structural change and fear of crime. *Social Problems, 40*, 374–397.

Taylor, R. B., Gottfredson, S. D., & Brower, S. D. (1985). Attachment to place: Discriminant validity, and impacts of disorder and diversity. *American Journal of Community Psychology, 13*, 525–542.

Taylor, R. B., & Hale, M. (1986). Testing alternative models of fear of crime. *Journal of Criminal Law and Criminology, 77*, 151–189.

Taylor, R. B., & Shumaker, S. A. (1990). Local crime as a natural hazard: Implications for understanding the relationship between disorder and fear of crime. *American Journal of Community Psychology, 18*(5), 619–641.

Thompson, M. P., & Norris, F. H. (1992). Crime, social status, and alienation. *American Journal of Community Psychology, 20*(1), 97–119.

Vanderveen, G. (2002). Experiencing safety: Proposing a novel approach to scout differences between men and women. In P. Nieuwbeerta (Ed.), *Crime victimization in comparative perspective: Results from the international crime victims survey* (pp. 1989–2000). Annandale: Federation Press.

Villareal, A., & Silva, B. F. A. (2006). Social cohesion, criminal victimization and perceived risk of crime in Brazilian neighborhoods. *Social Forces, 84*, 1725–1753.

Walder, A. G. (1990). Economic reform and income distribution in Tianjin, 1976–1986. In D. Davis & E. F. Vogel (Eds.), *Chinese society on the eve of Tiananmen, 1976–1986* (pp. 145–156). Cambridge, MA: Harvard University Press.

Walder, A. G. (1992). Property rights and stratification in socialist redistributive economies. *American Sociological Review, 57*, 534–539.

Walder, A. G. (1995). Career mobility and the communist political order. *American Sociological Review, 60*, 309–328.

Warr, M. (1984). Fear of victimization: Why are women and the elderly more afraid? *Social Science Quarterly, 65*, 681–702.

Whyte, M. K., & Parish, W. L. (1984). *Urban life in contemporary China*. Chicago: University of Chicago Press.

Will, J. A., & McGrath, J. H. (1995). Crime, neighborhood perceptions, and the underclass: The relationship between fear of crime and class position. *Journal of Criminal Justice, 23*, 163–176.

Wilson, J. Q. (1975). *Thinking about crime*. New York: Basic Books.

Wilson, J. Q., & Kelling, G. L. (1982). Broken windows. *The Atlantic Monthly (March), 2*, 9–38.

Winkel, F. W., & Vrij, A. (1990). Fear of crime and mass media crime reports: Testing similarity hypotheses. *International Rev. (Review) of Victimology, 1*, 251–265.

Wittebrood, K. (2002). Fear of crime and victimization in western industrialized countries—a multilevel analysis. In P. Niewbeerta (Ed.), *Crime victimization in comparative perspective: Results from the international crime victims survey* (pp. 1989–2000). Annandale: Federation Press.

Xu, Y. (2004). Economic stratification and group media transmission. *Enterprise Economy, 8*, 90–91.

Zhao, S. (2003). Peasant migration: Order building and policy rethinking. *Social Science in China, XXIV*, 168–176.

Zhao, S., & Kipnis, A. (2000). Criminality and the policing of migrant workers. *The China Journal, 43*, 101–110.

Zhou, Y. (1994). Sociological studies of generational gap. *Sociological Studies, 4*, 70–82.

Zhu, H., Wang, L., Lu, J., Guo, J., & Zhou, L. (1995). The international crime (victim) survey in Beijing. In U. Zvekic & A. A. d. Frate (Eds.), *Criminal victimization in the developing world* (pp. 67–87). Rome: United Nations Interregional Crime and Justice Research Institute.