



That Door You Just Kicked in Was Locked for Your Protection, Not Mine: Developing and Testing Competing Theoretical Models of Crime Prevention Behavior

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Abstract

Objectives: This research investigates tendencies for individuals to preference adopting weaponry to protect their home over unarmed defensive measures such as installing a lock or alarm. We extend the subculture of violence perspective to account for specific choices and test this approach against hypotheses related to situational reactions to threat. *Methods:* To explore differential preferences in crime prevention choices for protecting the home, we use data from 1,961 Seattle adults, collected during 2002 to

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2003. We employ Osgood and Schreck's multilevel item response theory-based method as our statistical approach. *Results:* The results indicate that those who endorse the values of the subculture of violence are more likely to have defensive weaponry among their countermeasures against crime, although the results also show that those who believe the police act justly are more likely to procure weapons. Situational reactions to threat also influenced choices, though not always in the predicted direction. *Conclusions:* Beliefs may be an important determinant for how people protect themselves against crime. Further, criminological theory can successfully explain crime prevention choices in the general population, indicating considerable untapped future directions for research.

Keywords

prevention, crime, criminological theory, fear of crime, statistical methods, quantitative research, research methods

Those seeking to lessen their risk as a target of victimization face the decision of choosing a specific countermeasure. When protecting the home, the range of choices include purchasing an alarm system; improving their residence's locks, doors, or windows; asking neighbors to watch the home when away; or some combination of these measures (Lab 1990; Madero-Hernandez, Fisher, and Wilcox 2016; Skogan and Maxfield 1981). Arming oneself with weaponry is another protection option. Indeed, protection against crime is a frequently cited reason for owning guns or other weapons (Arthur 1992; L. W. Kennedy and Baron 1993; McDowall and Loftin 1983; Pew Research Center 2013). Criminologists typically theorize that these crime preventative actions, especially the procuring of protective weapons, arise from perceptions of threat (May 1999; McDowall and Loftin 1983; Newton and Zimring 1969). As concern about one's risk of victimization increases, so too does the appeal of acquiring a weapon to protect persons and property.

While feelings of threat plausibly motivate the acquisition of protective weapons, beliefs (independently of threat perceptions) may contribute as well. Recent controversy surrounding the acceptability of owning weapons for personal protection reveals striking differences in opinion (Hemenway and Solnick 2015). Some groups in the general population, citing the injurious potential of weapons, refuse to consider them at all. Yet other groups perceive this apparent "defect" as *the* decisive virtue, feeling less comfort with precautions that do not involve a weapon (e.g., relying on neighbors, installing locks or alarms). This indicates a complex relationship where

people not only have clear preferences for either weapons or unarmed methods of self-protection, but that endorsement of one type appears to lessen the chances of adopting the other. Although there is a substantial empirical literature examining the link between fear and weapons acquisition, theories tend not to go beyond perceptions of threat (Madero-Hernandez, Fisher, et al. 2016; Wilcox, May, and Roberts 2006). To understand this issue better, one that is deserving of far greater scientific scrutiny than it has thus far received, we develop the subculture of violence perspective as a theory that can meaningfully account for the *type* of crime prevention choice. This approach suggests that those who endorse subcultural norms favoring violence will—after making the decision to take protective action—have a tendency to arm themselves and at the same time reject unarmed crime prevention alternatives.¹

In short, crime prevention research often implicates perceptions of threat as the justification people use to acquire defensive weapons. The present research proposes that personal beliefs about violence offer a competing explanation. To test our theoretical predictions, we analyze data from a sample of 1,961 adults collected in Seattle, WA, during 2002–2003. Using a multilevel item response theory (IRT)-based statistical method, the present study evaluates whether those persons who score high on indicators of subcultural beliefs and other theoretically relevant factors are more likely to manage their vulnerability to crime by arming themselves with a weapon than they are to choose unarmed countermeasures.

Theoretical Overview

Situational Reactions to Threat

The theoretical literature has produced several explanations or hypotheses that are essentially variations on the idea that people are more likely to acquire weapons when they feel under threat of criminal victimization (Wilcox et al. 2006). One of these is Newton and Zimring's (1969) "fear and loathing" hypothesis (Luxenburg et al. 1994; Wright, Rossi, and Daly 1983). This hypothesis originally explained gun ownership but has been extended to weapons more generally. The "fear" and "loathing" labels originated from the idea that those who fear crime and disorder tend to adopt a hostile orientation toward criminals and so are more likely to obtain weapons to resist them. As May (1999) pointed out, a growing literature has omitted the loathing aspect of this hypothesis and focused solely on the connection between fear of victimization and the likelihood

of obtaining weapons, thus evolving into what he termed the “fear of victimization” hypothesis. The “collective security” hypothesis (McDowall and Loftin 1983) similarly involves perceptions of risk as a key determinant of choosing a weapon, although in this case, perceptions arise from the belief that law enforcement is failing. All of these explanations have in common a focus on feelings of threat as the basis for selecting defensive weapons, and, as in Wilcox et al. (2006), we simplify these hypotheses by referring to them hereafter as “situational reactions to threat” and extend them to cover the procurement of any defensive weapon and not just firearms.²

More specifically, each of these explanations appears friendly to the idea that a person who observes disorder or incivilities in the surrounding neighborhood—such as loitering youth, physical neglect of property, trash (Ferraro 1995)—would sense threat in the environment and thus be more inclined to seek a protective weapon. Further, these hypotheses indicate that those who worry about victimization more will see a greater need for a weapon (Luxenburg et al. 1994; Simon, Dent, and Sussman 1997). Direct experiences with victimization are irrefutable and objective markers of one’s own risk and sometimes carry emotional tolls (Parker and Ray 2010; Turner, Finkelhor, and Ormrod 2006). Thus, such experiences also should exert an independent effect on the decision favoring the procurement of a weapon (Farrell and Pease 1993; Skogan 1987; Smith and Uchida 1988). Taken together, we hypothesize that worry about victimization, perceptions of neighborhood conditions (or ecological threat), and actual experience with victimization all generate feelings of threat and increase the probability of choosing a protective weapon.

Nevertheless, research has only inconsistently linked situational reactions to threat—fear, perceptions of threat, and actual victimization—with decisions to adopt weapons for protection (Cao, Cullen, and Link 1997; Lizotte, Bordua, and White 1981; Luxenburg et al. 1994; McDowall and Loftin 1983; Wright et al. 1983). Moreover, reactions to threat appear to inspire a range of safety precautions that often do not include weapons (Ferraro 1995; Madero-Hernandez, Fisher, et al. 2016; Wilcox Rountree and Land 1996). This, perhaps, makes sense insofar as reactions to threat explanations, while they can plausibly account for the attractions of a weapon, leave unaddressed the question of why alternative countermeasures ought to be correspondingly less appealing. The general findings thus suggest an alternative hypothesis where weapon procurement occurs alongside other defensive behaviors (and the choice of weapons is simply due to statistical chance).

Subculture of Violence

The pattern of findings on situational reactions to threat suggests that the question of why people choose weapons for protection can profit from additional theoretical work. Kleck (1988), in describing the appeal of firearms for self-protection, mentioned that guns were intimidating and can bestow on the carrier a feeling of power. While such qualities may help ameliorate perceptions of threat, this argument also allows that those who value appearing powerful and intimidating will prefer weapons and view unarmed safety precautions as less satisfying to implement. In this case, the choice of a defensive weapon over other alternatives is *not* specifically a reaction to threat but a manifestation of norms and beliefs. Theory and research on the subculture of violence may thus have relevance for determining the nature of protective behavior.

Subculture research focuses on locating particular values and beliefs that determine the behavior of group members. Beginning with Thrasher's (1927) research on the gang, scholars studying subcultures of violence have observed a consistent pattern of normative themes among groups where interpersonal violence is common. These value systems typically feature elements including a strong (but easily bruised) sense of personal honor, a notion that violent retaliation is necessary to both build and protect honor, and mistrust of "legitimate" authorities (Anderson 1999; Cohen 1955; Erlanger 1976; Jacobs and Wright 2006; Miller 1958). Such values have obvious implications for interpersonal violence, dictating the motivations and circumstances when it occurs, and so documenting the connection between these norms and violence has been the traditional concern of criminological research on subcultures.

Research has not systematically explored how subcultural beliefs determine the form that defensive strategies might take. Nevertheless, as Stewart, Schreck, and Simons (2006) observed, Blacks who adhered to the "code of the street" believed that victimization damaged personal honor, which warranted employing the threat of violence as a tool to mitigate risk (see also L. W. Kennedy and Baron 1993). The use of violence to manage victimization risk is a hidden theme running through ethnographic reports of subcultures, implying that particular crime prevention choices—and not merely offending—may be guided by the same values and beliefs. Not surprisingly, weapons figure very prominently in scholarly descriptions of violent subcultures. Jacobs and Wright (2006:78), in their report on the criminal underworld of St. Louis, pointed out that having a weapon facilitates the gaining of respect, believed to help keep one safe, and separate the "real men

apart from the pretenders.” Research on felons in state prisons found that, as in the general population, among the most cited reasons for carrying a firearm when outside the institution was the need for self-defense (Wright and Rossi 2008). L. W. Kennedy and Baron (1993) further described how street people were not particular about their choice of defensive weapon, being willing to utilize canes and even aluminum siding. Such evidence resonates with Kleck’s (1988) arguments described earlier. Research on the subculture of violence puts a premium on being powerful and intimidating, and so those who aspire to these qualities ought to see weapons as the most comfortable and effective choice. To not have a weapon implies passivity and submissiveness—traits that they believe communicate weakness to others, diminishing their respect, and inviting predation (Anderson 1999). Defensive weapon carrying thus seems to be not only desirable but also expected among members of the subculture (Anderson 1999; Kubrin and Weitzer 2003; Luckenbill and Doyle 1989). From this, we hypothesize that those who espouse norms advocating a belief that violence is required to facilitate respect will have a strong affinity toward protecting themselves and their home with weapons. This effect will persist independently of factors associated with situational reactions to threat.

Related to the belief that weapon possession is a necessary concomitant of respect, the subculture of violence also encourages adopting weaponry through its suspicion and skepticism of authority figures, such as law enforcement. Indeed, Black (1983) argued that the lack of availability and the perceived incompetence of police forces create the natural conditions for violent self-help as a means of dispute resolution. Within the subculture of violence, mistrust of law enforcement is a recurring theme in research and ethnographies of inner-city groups (Anderson 1999; Bruce, Roscigno, and McCall 1998; Miller 1958; Sampson and Wilson 1995; Wolfgang and Ferracuti 1967). Specifically, residents in areas where there are subcultures of violence often perceive that law enforcement acts in a manner that appears procedurally unjust. Residents believe that their interactions with the police are unsatisfactory, the level of police protection and competence is inadequate, and the tone of interactions is hostile and abusive (R. Kennedy 1997; Weitzer 1999). Residents thus feel unable to count on police protection and feel obliged to take personal responsibility for their own defense. In sum, mistrust of authority figures and police should lead individuals seeking to lessen their chances of victimization to gravitate toward weapons.

While subcultures of violence thus promote beliefs that endorse weapons, the research suggests that they also actively *dissuade* people from

considering less confrontational crime prevention alternatives—indeed, to view other persons resorting to them as “weak.” As noted above, this is a crucial point absent in the hypotheses derived from situational reactions to threat. Research on subcultures often report hostility toward the idea of passive defense or seeking protection from third parties such as police, teachers, or parents (Anderson 1999). Where manhood and personal honor derive from solving problems directly and with one’s own resources, it follows that behavior indicative of avoiding confrontation—whether by turning to others for help or getting an alarm for the house—characterizes the fearful and cowardly actions of a “chump.” For instance, one street criminal remarked, “I take care of myself” (Jacobs and Wright 2006:79). Those who endorse the values of the subculture of violence would generally see passive defense strategies as ineffective and contemptible. We would thus hypothesize that when someone who endorses values that justify violence chooses a crime prevention tactic, net of all other variables, there will be a clear tendency not only to adopt a weapon but also to *avoid* tactics that imply passive defense or reliance on others.

Summary of Research Hypotheses

The theoretical overview suggests research hypotheses about the factors that, once a person has decided to take action to protect the home, might influence whether the choice will involve a weapon. These hypotheses are summarized below:

- Situational reaction Hypothesis 1: Increasing levels of worry about victimization, perceptions of ecological threat, and prior victimization should increase the likelihood of choosing a weapon over other types of precautionary behavior.
- Situational reaction Hypothesis 2 (alternative): Increasing levels of worry about victimization, perceptions of ecological threat, and prior victimization should only increase the general probability of using crime prevention to protect the home. Reactions to threat will not affect the type of precautionary behavior (i.e., the selection of a protective weapon will only reflect statistical chance).
- Subculture of violence Hypothesis 1: Stronger endorsement of sub-cultural norms justifying violence will increase the likelihood of choosing a weapon over some other precautionary behavior to protect the home. The effects of these norms on the type of crime prevention a person chooses will be independent of perceptions of threat.

- Subculture of violence Hypothesis 2: Increasing belief that the police are procedurally unjust will increase the likelihood that a weapon and not some other precautionary behavior will be used to protect the home. The effect of having a belief that police are procedurally unjust on the type of crime prevention a person chooses will be independent of perceptions of threat.

Subculture of violence theory does not suggest that endorsing subcultural values will necessarily cause individuals to have a greater probability of using crime prevention; rather, those who do take precautions will be more apt to acquire a weapon and less likely to employ alternatives. These hypotheses should remain robust notwithstanding controls for individual demographic characteristics, criminality, and social interactions with neighbors.

Research Design

Data

We test our theoretical predictions using publicly available data from the Seattle Neighborhoods and Crime Survey, collected in 2002 to 2003 (Matsueda 2010). The 2,220 participants were randomly drawn from each of the 123 census tracts in Seattle, WA. Each tract contributed between 21 and 110 households. The questionnaire was administered via computer-assisted telephone interviewing and resulted in a very high response rate of 97 percent. Of these, 1,961 respondents supplied sufficient data for the present research.³ Descriptive data for the sample are summarized in the Appendix A.

Dependent Variables

The Appendix A reports the descriptive statistics for all measures. Our outcome items for *crime prevention* consists of six techniques that are commonly present in research exploring crime prevention among a homeowner population (Lavrakas and Lewis 1980; Miethe 1991). Although crime prevention choices are in part a reflection of the specific circumstances of the crime that a person might fear, all of the items—for example, neighbors, lights, weapons—are conceivably relevant toward mitigating exposure to both personal and property victimizations at home. Five of the questions capture unarmed techniques: leaving lights on when away, installing extra locks, having burglar alarm/electronic devices, having a dog, and having neighbors watchhouse when away. The sixth item measures having a

defensive weapon.⁴ The items had dichotomous (yes = 1/no = 0) response options. There is considerable variation across tactics endorsed by the respondents. For instance, 74 percent reported leaving lights on or having neighbors watch a house, with the smallest percentage of respondents reported having a defensive weapon (21 percent).

Explanatory Variables

The multivariate analyses include controls for a range of individual demographic characteristics. The respondents ranged in age between 19 and 103 years, with a mean of 50.25 years. Females comprised slightly more than half (51 percent) of the respondents. The sample is also overwhelmingly White (82 percent) with a very modest representation of Blacks (3 percent).⁵ The remaining sample (11 percent) includes Asians, Native Americans, and Other races. We use two dummy variables for race (Whites and Blacks), with the other racial groups comprising the reference category in the multivariate analyses. The average respondent also self-reported having “at least some” college education (\bar{x} = 5.68, where 1 = eighth grade or less and 7 = graduate or professional degree). Over two thirds (67 percent) of the sample were currently employed, and 45 percent were currently married.

Our major substantive measures encompass subcultural beliefs. *Subcultural attitudes toward violence* consisted of three items reflecting the presentation of an aggressive image and the willingness to resort to violence (Anderson 1999; Berg et al. 2012; McNeely and Wilcox 2015; Stewart, Simons, and Conger 2002). Respondents were asked the following: “if you are insulted you should turn the other cheek,” “violence is never justified under any circumstances,” and “it is important for a young man to have a reputation as someone who is tough and not to be messed with.” The response options ranged from 1 (strongly agree) through 4 (strongly disagree), where higher scores indicate stronger endorsement of subcultural beliefs (after reverse coding the “tough image” item).⁶ The mean for each item, as presented in the Appendix A, indicates that the sample has relatively weak endorsement of subcultural beliefs about violence. Another component of these beliefs centers on *perceptions of procedural justice*, specifically discriminatory police practices (Anderson 1999). Following Drakulich and Crutchfield (2013), we capture this with a single item asking respondents on a four-point scale how strongly they agreed (1) or disagreed (4) with the statement “Racial profiling is a problem in this neighborhood.” The relatively high mean of 2.96 (standard

deviation = .71) indicates that respondents collectively tend not to view profiling as a problem.

To isolate the effect of beliefs, we include additional substantive variables to control for rival explanations for why subcultural variables might affect the type of crime prevention a person may use. Since *criminality* is associated with endorsing subcultural values, we include a question asking respondents to self-report whether they have never committed an act for which they could have been arrested (scores ranged from 1 “strongly agree” to 4 “strongly disagree”; $\bar{x} = 1.91$, indicating low lifetime criminal involvement). A measure for *low social involvement* accounts for the possibility that the effect of subcultural beliefs on defensive weapons procurement reflects social isolation as the motive for self-help rather than belief. This variable is a seven-item index capturing the respondent’s familiarity and interaction with other neighbors (Bellair and Browning 2010), constructed by taking the average score of these items. These component items reference the following interactions with neighbors: how often the respondent watched a neighbor’s home,⁷ borrowed items, had lunch or dinner, helped with a problem, asked about personal things, said hello or talked, and participated in block activities. Scores for each item ranged from 1 “often” to 3 “never.” The social involvement index has good internal consistency, and the average respondent reported “sometimes” engaging in each type of social activity with neighbors ($\bar{x} = 2.09$; Cronbach’s $\alpha = .80$).

The remaining explanatory measures capture variables associated with situational reactions to threat. Consistent with the focus of the outcome items on home security, *worry about victimization*, is a single survey item that captures how frequently the respondent worries about home invasion. Scores for this measure range from 1 “less than once a month” to 4 “every day.” *Ecological perceptions of threat* is the average score of five question items about neighborhood disorder or incivilities (LaGrange, Ferraro, and Supancic 1992). These items measure the respondent’s belief that there was a problem in the neighborhood with groups of teenagers hanging around the street, graffiti, trash, neighbors causing trouble or noise, and abandoned houses. The scores for these items ranged from 1 “not a problem” to 3 “a big problem.” This index has acceptable internal consistency (Cronbach’s $\alpha = .75$). *Past victimization* is a variety index consisting of the following seven items: verbal altercations, physical violence, forced sexual activity, burglary, theft, car theft, and robbery. Scores range from 0 (experienced none of the victimization types during the previous two years) through 7 (experienced each type of victimization during the previous two years). The descriptive statistics for these three measures indicates that respondents

typically did not often worry about home invasion ($\bar{x} = 1.80$), did not perceive much threat in their neighborhoods ($\bar{x} = 1.41$), and did not experience much victimization in the previous two years ($\bar{x} = .80$).

Analytic Methods

To test our research hypotheses, we employ a method that incorporates an IRT approach to measurement in a multilevel regression framework (Osgood, McMorris, and Potenza 2002; Raudenbush, Johnson, and Sampson 2003) using HLM (Hierarchical Linear Modeling) 7.03 software. Since Osgood and Schreck (2007) presented a detailed description of this method, this section only summarizes the approach and its application to studying preferences in crime prevention choices.⁸

The IRT-based model incorporates two levels of analysis because crime prevention choices are nested within individual respondents. Level 1 specifies a measurement model, where the outcome is individual j 's response to crime prevention item i . If the respondent answers "yes" to using the crime prevention method, then $Y_{ij} = 1$; otherwise, $Y_{ij} = 0$. This measurement model defines two latent variables. The first specifies the log odds that an individual respondent will take crime preventative action of some sort (β_{0j}), which may or may not involve weapons. We term this index in the tables as "probability of crime prevention." The second index (β_{1j}) references the differential preference for either weapons or nonweapons, when making a crime prevention choice ("type of crime prevention" in the tables). The level 2 portion of the equation is a structural model that relates explanatory variables to the two latent variables. The unit of analysis for level 1 is a respondent's answer to a specific item, where for level 2, the unit of analysis is the respondent. In the notation of hierarchical linear modeling (Raudenbush and Bryk 2002), the level 1 regression equation is:

$$\ln(\lambda_{ij}) = \beta_{0j} + \beta_{1j}\text{type} + \sum_{i=2}^{I-1} \beta_{ij}D_{ij}. \quad (1)$$

The level 2 regression equations are:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}X_{1j} + \gamma_{02}X_{2j} + \dots + u_{0j}, \quad (2)$$

$$\beta_{1j} = \gamma_{11}X_{1j} + \gamma_{12}X_{2j} + \dots + u_{1j}, \quad (3)$$

$$\beta_{ij} = \gamma_{i0}. \quad (4)$$

The following subsections provide fuller explanations of equations (1)–(4).

Probability of Crime Prevention

Equation (1) describes the log odds that a respondent will report using each of the crime prevention outcomes as depending on three elements (all of which are, in turn, predicted in equations 2–4). The first is the equation's constant (β_{0j}), which applies to each crime prevention item and varies randomly across individuals (due to the residual term, u_{0j} , in equation [2]). Therefore, β_{0j} is a latent variable measuring individual differences in the rate of affirmative responses across all of the crime prevention items or the probability of using crime prevention of some sort. The variance of the residual term u_{0j} , or τ_{00} , reports the degree of individual differences in their tendency to use crime prevention. The size of the variance will depend on how strongly positive responses to each of the crime prevention items is associated with a positive response to the other items, whether involving a weapon or not.

Type of Crime Prevention

The second element shaping the probability of a yes response to a crime prevention item is the type of crime prevention a respondent prefers, specifically whether the respondent chooses a weapon more than a nonweapon. In equation (3), β_{1j} specifies such preferences when the variable type is coded with a positive or a negative value. A positive score occurs when the respondent reports yes to having a weapon, where a negative score occurs when the respondent chooses something else. Because the probability of having a defensive weapon may be correlated with the probability of using other crime prevention measures, confounding is eliminated by specifying type as a group mean-centered dummy variable, where the mean is zero. β_{1j} is thus an index of crime prevention preference, reporting the *difference* between a given respondent's log odds of selecting a weapon versus the log odds that the respondent chose some other protective strategy. The precision of the information about each method of crime prevention depends on the number of positive responses, and Osgood and Schreck's (2007) method controls for this. Since the level 2 equation for β_{1j} includes a residual term, *type of crime prevention* is a latent variable that varies across respondents. The variance term (τ_{11}) reports the extent to which the respondents, when choosing crime prevention, differ in their preference for weapons or non-weapons. Where the variance is zero, any observed differences between respondents in the type of crime prevention that they chose is due to chance. The greater the variance, the more evident the distinction between

respondents in the type of crime prevention they prefer. We assess the statistical significance of the variance component score by dividing τ by its standard error. For reference, a ratio of τ to its standard error of 3.3 would indicate a level of significance equivalent to .001 or less.⁹

Item Base Rates

A third element affecting the probability that a respondent will answer yes to any crime prevention item is the base rate for an affirmative response across the sample. Or, put differently, the IRT-based model compensates for the fact that some of the crime prevention actions are generally “easier” to implement than others and thus will be more prevalent than the “harder” methods. For instance, purchasing a new lock may be easier than buying a weapon, while leaving lights on may be easier still. In the equation, β_{ij} captures this in the log odds metric. Rarer methods of crime prevention will thus have a lower score for β_{ij} , while those that are more common will score higher. A series of dummy variables (D_{ij}) indicates which item is associated with each response. The item base rates are held constant across the sample, as indicated by the absence of a residual term in equation (4).

Explanatory Variables

Osgood and Schreck’s (2007) model also allows researchers to observe the effects of explanatory variables on not only the *probability of crime prevention* but also the type of crime prevention. Because there may be considerable variation how precise estimates of preferences for weapons over nonweapons is, given how infrequently occurring some may be, a latent variable approach is especially desirable. The level 2 equations denote structural regression models simultaneously estimating the influence of explanatory variables on the probability of crime prevention and type of crime prevention. In equation (2), the outcome variable (β_{0j}) is respondent j ’s latent score for his or her probability of crime prevention. As in a logistic regression, a coefficient in this model, such as γ_{01} , reports the log odds increase in choosing each crime prevention method per one-unit increase in the explanatory variable. In equation (3), the outcome (β_{1j}) is the respondent’s latent score for type of crime prevention (specifically, a weapon vs. some other type of crime prevention). Here, a regression coefficient, such as γ_{11} , specifies the extent to which the log odds that a crime prevention choice will be a weapon exceeds the log odds that the choice will be something else, after adjustment for item base rates, per one-unit change in the

Table 1. Variance of Probability and Type of Crime Prevention.

Test Statistics	Probability of Crime Prevention	Type of Crime Prevention
τ	1.10	1.94
Standard error (τ)	0.06	0.26
Ratio	18.33	7.46
Significance level	.001	.001

explanatory variable. Based on our coding of the outcome variables, a positive coefficient signifies that the independent variable increases the probability that the choice will involve a weapon over a nonweapon, where a negative coefficient indicates the opposite. A nonsignificant coefficient only indicates that the changes in the explanatory variable do not discernibly affect a respondent's preference one way or the other.

Results

It is plausible to think that people who undertake crime prevention may choose a weapon for no other reason than chance. The first objective, shown in Table 1, is thus to rule out that patterns in crime prevention choices are statistical accident. As in Osgood and Schreck (2007), we first conducted a global test for whether there was significant differences in the preponderance of armed versus unarmed crime prevention methods across the entire sample. This model omits the explanatory variables from the level 2 equation. Here, we divide the variance estimates (τ) by their standard errors and then conduct a z test of significance. The z score of 7.46 indicates a p value less than .001, which means that there is statistically significant variation across respondents in the degree they choose weapons over other crime prevention alternatives or vice versa. These differences are highly unlikely to reflect chance error.

Table 2 reveals more concretely the variation across respondents in their crime prevention choices in terms of both the number of different methods employed and the type. Using level 2 residuals produced in HLM, we split the sample into three categories based on their relative position on the continuum on the variable type of crime prevention.¹⁰ The persons are classified into the "unarmed" category generally selected just as many crime prevention measures as the "armed" category ($\bar{x} = 3.49$ for the unarmed group, $\bar{x} = 3.61$ for the armed group). Those who fell into the "medium" category were also highly unlikely to choose a weapon (armed

Table 2. Observed Distribution of Crime Prevention Choices by Relative Position on Type of Crime Prevention.

Type of Crime Prevention	Observed Distribution of Crime Prevention			
	Armed	Unarmed	Total	<i>n</i>
Unarmed (<-1 SD)	0.00	3.49	3.49	821
Medium (between -1 and +1 SD)	0.04	1.73	1.77	723
Armed (>+1 SD)	1.00	2.61	3.61	397

Note: Only includes respondents who report implementing at least one type of crime prevention. SD = standard deviation.

countermeasures $\bar{x} = 0.04$). The armed individuals, however, did employ some unarmed responses (unarmed countermeasures $\bar{x} = 2.61$), but they were less likely to endorse any of them.¹¹

Since there are meaningful differences between the respondents in not only their probability that they will adopt some crime prevention method but also the type of crime prevention they prefer, the question turns next to whether these differences can be explained according to the theories and hypotheses described earlier. In Table 3, in the column under probability of crime prevention, we look first at explanatory variables that predict the likelihood that a person will utilize defensive precautions of any kind. The coefficients here simply report the log odds of endorsing each of the crime prevention measures per unit change in the explanatory variable. The results, among the demographic variables, indicate that those most likely to adopt each of the precautions tend to be those who are older and married. The effect of education on the log odds for taking precautions indicates that those who have more schooling are somewhat less likely to do so, net of the other variables. Persons who rarely interacted with their neighbors and who lived in neighborhoods described as disordered are less likely to take some sort of precaution against victimization, as were those who self-reported higher levels of criminality. Persons who worried about break-ins and who had reported a wider range of victimization experiences in recent years were more likely to take defensive action (see also Ferraro and LaGrange 1987). None of the subcultural items significantly affected the probability a respondent will adopt some type of crime prevention.

We next explore what accounts for the type of crime prevention choice. The results show that it is not only possible to predict whether someone will prefer weapons over nonweapons but also that the factors connected with the probability of undertaking a crime prevention action are not necessarily

Table 3. Relationships of Explanatory Variables to Frequency of Choices and Direction of Choices.

Explanatory Variables	Probability of Crime Prevention		Type of Crime Prevention	
	Coefficient	SE	Coefficient	SE
Age	.01***	.00	−0.02**	.01
Female	−.05	.06	−1.10***	.14
White	.16	.09	0.54**	.21
Black	.28	.20	0.98**	.38
Highest education level	−.05**	.02	−0.20***	.05
Married	.58***	.06	−0.17	.14
Employed	.06	.07	−0.22	.17
Subcultural attitudes toward violence				
Turn other cheek	.05	.04	0.18*	.09
Violence never justified	.06	.03	0.30***	.08
Tough image	.01	.05	0.09	.11
Perceptions of procedural justice	.08	.05	0.23*	.11
Criminality	−.08*	.03	0.25***	.08
Low social involvement	−.83***	.07	1.09***	.16
Situational reactions to threat				
Worry about victimization	.27***	.03	−0.16*	.07
Ecological perceptions of threat	−.16*	.08	−0.16	.17
Past victimization	.14***	.03	0.15*	.07

Note: SE = standard error.

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

the same as those determining the specific type of crime prevention. This is evident among some of the demographic predictors. For instance, while older respondents were more likely to take some sort of precaution, they were less likely to choose a weapon than a younger respondent. Females also tended to avoid weapons, as did those with higher levels of education. Those most likely to turn to weapons thus tend to be young males who have less education. While race did not appear to influence the chances of adopting some form of precaution, both Whites and Blacks who did were significantly more likely to prefer a weapon than Other races or those of mixed racial heritage.

The substantive predictors also reveal an interesting portrait of those who prefer defensive weapons. The measures we used to specify situational reactions to threat for the most part were significantly related to preference. Although respondents who had prior experiences with victimization and

who expressed greater worry about break-ins were more likely to engage in defensive behavior, only victimization increased the chances of choosing a weapon over a nonweapon. Increased worry about break-ins, in contrast, increased the probability that the choice will not involve a weapon.¹² Ecological perceptions of threat, on the other hand, although presenting an effect size comparable to the other predictors of situational reactions, did not significantly affect the type of crime prevention either way.

The results for the most part supported hypotheses where subcultural attitudes favoring violence would make the choice of a weapon more likely; two of the three attitudinal measures had a significant effect in the predicted direction. The exception was the “having a tough image” item. Although the effect coefficient for this measure was also in the expected direction (i.e., increasing the odds of procuring weapons), it was not strong enough to rule out chance.¹³ These effects are net of criminality and social isolation, suggesting that the respondents’ beliefs are producing the effect rather than other concomitants associated with endorsing subcultural values. Both criminality and social isolation made weapon procurement more probable and the usage of other precautions less probable. Inconsistent with our expectations, however, beliefs that the police were procedurally unjust did not increase preferences for weapons. In fact, the respondents who believed less strongly that the police engaged in racial profiling, the *more* likely they were to prefer a weapon.

Discussion and Conclusion

We began with the idea that anyone motivated to take precautions against crime must face the conundrum of what exactly to do. Prior research suggests that any choice of defensive strategy ought to promote greater feelings of well-being and safety (Garofalo 1981; Perloff 1983; Warr 2000); however, other data reveal considerable differences in opinion, usually revolving around the desirability of defensive weapons (Erksine 1974; Pew Research Center 2013). Theory about crime preventative behavior is largely limited to variations of ideas related to situational reactions to threat, where the research has produced mixed support (Cao et al. 1997; Lizotte et al. 1981; Luxenburg et al. 1994).¹⁴ The principal objective of the current study is, therefore, to develop and test an alternative conceptual framework drawn from criminological theories to explain individuals’ crime prevention choices for protecting their home.

Since crime prevention often involves a repertoire of countermeasures rather than simply one type, our approach considers the relative

preponderance of armed versus unarmed types of crime prevention as the variable of interest. The justification for distinguishing between armed and unarmed crime prevention, rather than the more usual avoidance versus defensive behaviors, derives from a well-established theoretical approach in criminology, the subculture of violence (Anderson 1999; Miller 1958; Thrasher 1927; Wolfgang and Ferracuti 1967). Research on subcultures is clear that those who express values justifying violence hold weapons in very high esteem. Weapons promote respect and are an incentive for others to leave one alone (Anderson 1999; Jacobs and Wright 2006; L. W. Kennedy and Baron 1993). Alternatives, such as buying new locks, fail to gratify the need to feel strong and intimidating and may even suggest passivity and cowardliness. Our hypothesis is that those who endorse values that permit violence to protect personal honor and respect may or may not be more likely to take steps to protect themselves and their homes; however, when they do, they will show a clear preference for a weapon. We also considered other aspects of the subculture of violence as well, such as the belief that police are unfair and discriminatory (Anderson 1999), theorizing that those who feel the police act unjustly in their neighborhood will be attracted to weapons. This likely does not exhaust possible explanatory factors for selecting weapons for crime prevention, a topic we will come back to later; however, the present study does offer a theory-based starting point.

Turning to the results, there was statistically significant and substantively important variation across respondents in what they did to protect their homes against crime. Most individuals who attempted defensive behavior avoided weapons entirely and instead used other strategies. A significant minority of respondents owned weapons and these individuals were less likely to use any of the other crime prevention strategies, including those that present virtually no effort or inconvenience to implement (e.g., turning on lights). These results thus show that ownership of a weapon to protect the home in almost all cases corresponds to a decreased willingness to employ any other defensive strategy and vice versa.

Since chance does not account for these patterns, our analysis considers the hypothesized reasons. The results present a complex picture showing that crime prevention choices are driven by experiences, emotional states, and personal values and traits. There does appear to be merit for the idea that situational reactions shape preferences, insofar as prior experiences with victimization increase the probability that the respondent will choose a weapon over a nonweapon. That is the extent of support for this situational reaction hypothesis. That hypothesis also suggested that worry about crime would increase the probability of choosing a weapon. The results showed

that respondents who had more worry about home invasion were in fact more likely to engage in crime prevention efforts; however, contrary to expectations, these efforts were *less* likely to involve a weapon than a non-weapon. Further, there was not sufficient evidence to conclude that ecological perceptions of threat affect the type of crime prevention a respondent might choose. Taken together, our measures of situational reactions did correspond with a greater desire for defensive action; however, the type of action these feelings induced was not always in line with theoretical predictions. These measures hardly rule out the possibility that other indicators of ecological risk or emotional states may create a predilection for a weapon. For instance, neighborhood social disorganization and the attendant disintegration of personal networks and community control may force individuals to arm themselves to protect their homes; however, this alternative represents a departure from the situational threat model and incorporating it would require a more systematic treatment than we can offer here.

An alternative explanation proposes that choices in personal protection reflect the individual's values. Specifically, those who express subcultural attitudes toward violence and who are skeptical of law enforcement (i.e., perceptions of procedural injustice) were thought to be more likely to see weapons as attractive. The results showed that those who have beliefs that justify violence were more likely to adopt a defensive weapon than to pick another strategy. Further, the effect of these beliefs was independent of reactions to situational threat (i.e., worry, ecological perceptions, or prior victimization experiences), suggesting that fear is probably not driving these beliefs. Another plausible counterexplanation is that the effect of holding proviolence beliefs simply reflects criminality, where criminals naturally are more apt to prefer weapons. The past research (e.g., Jacobs and Wright 2006) shows that there is enough merit to this argument to justify a control for criminal offending. The findings reveal that self-reported criminality, in fact, does appear to affect preferences toward making the procuring of a weapon more likely; however, proviolence beliefs continue to exert an independent effect.¹⁵ Or, put differently, criminality (like situational threat) is not the underlying reason why proviolence beliefs affect crime prevention choices. While some people who believe violence is justified may express these values by committing crime, other people manifest these beliefs in other ways such as by acquiring a defensive weapon. The effect of these beliefs also appears to be unconnected with the closeness of the respondent's relationships with neighbors. Research has typically reported that subcultural beliefs about violence tend to emerge in socially disorganized areas (e.g., Anderson 1999), indicating that respondents'

beliefs may simply reflect social isolation and the consequent need for engaging in self-help. The findings did show that those who reported that they are socially isolated and rarely interacted with their neighbors tended to obtain weapons; however, this did not render spurious the effect of beliefs. The idea that social isolation is a reflection of the dangerousness of the neighborhood is plausible, but the control for ecological perceptions of threat indicates that isolation may occur for reasons other than fear. In sum, beliefs exert an independent effect upon whether or not one procures a defensive weapon. If this is true, it presents interesting policy challenges to those who want to restrict the availability of weapons. Namely, persons who believe violence is justified to protect their honor are unlikely to be responsive to appeals about objective victimization risks or evidence regarding accidental death or injury (Moyer 2017).

Inconsistent with our expectations, however, are the results concerning perceptions of procedural justice. Our hypothesis—that the belief that the police are procedurally unjust will increase the likelihood that a weapon will be preferred for home protection—did have a good substantive basis. Anderson (1999) described the code of the street as emergent from endemic and severe racial discrimination (in part a product of unjust police behavior toward residents). The results indicate the opposite is true. Those who believed the police did not discriminate against residents and minorities were more likely to obtain weapons than they were to take other precautions. Given the Seattle context and the racial composition of the sample, it is possible that the item on perceived nondiscrimination is not actually measuring police competence (McDowall and Loftin 1983). Blacks in the inner city may see this kind of measure as an important element informing their estimation of the police; however, only 3 percent of the respondents were Black, and Seattle may present a different urban context than Philadelphia or St. Louis. In locations such as Seattle, or perhaps in rural environments, this measure and others may take on a different meaning. For instance, it is plausible that perceived police nondiscrimination indirectly measures a “law and order” mentality or possibly conservative political sentiment. Although there is reason to believe that the main substantive findings regarding attitudes will be robust irrespective of location (Dixon and Lizotte 1987), this research considers a novel outcome variable and so a basic set of agreed-upon facts does not yet exist. Research in other locations and populations is necessary to verify the findings reported here.

The current study highlights the potential for future research; however, further progress will depend upon renewed data collection efforts. The Seattle data used in the current research are atypical in that it measures

crime prevention strategies as well as theoretically important variables, but the data are also more than 15 years old and crime prevention strategies and behaviors have changed. Further, the number of items measuring defensive weapons was not ideal for the IRT method we employed here. Future data collection should measure a broad range of crime prevention outcomes, including personal protective behaviors in a variety of settings, such as walking on the street or engaging in daily routines (e.g., shopping or leisure activities). While the subculture of violence perspective does not distinguish between these different settings, positing that those who endorse the relevant beliefs will prefer weapons in any situation, whether they actually do or not remains an unanswered question. Our outcome measures also require the assumption that defensive firearm or handgun ownership shares the same basic causes as ownership of other weapons (such as knives, Tasers, pepper spray, or bats). The subcultural perspective does not appear to make obvious causal distinctions between these, arguing that those who endorse proviolence beliefs will be attracted to anything that can empower them in a confrontation and intimidate others with the potential for death or injury (e.g., L. W. Kennedy and Baron 1993); however, other explanations, such as situational reactions to threat, may be more specific. Future surveys should therefore include direct indicators of a variety of weapon types along with specific protective behaviors relevant to a wider range of settings.

Turning to future substantive directions, our results indicate that a consideration of criminological theory and its relation to crime prevention choices may yield rich potential for further research. For instance, in a rational choice model, a person would select a defensive action based on an objective assessment of the relative costs and benefits of each alternative. Many strategies—for instance, locks, alarms, dogs—offer protection in exchange for varying levels of inconvenience and financial cost. Weapon ownership, although conferring feelings of power and safety, has a special set of downsides: relatively high monetary cost, legal liability, and physical injury, including death (Cook, Braga, and Moore 2011; Smith and Uchida 1988). Physical injury is a particularly salient downside because any defensive weapon must be near at hand and prepared for immediate use to be effective; however, accessibility and readiness also expose the owner and bystanders to accidental or even intentional injury. Since some people clearly do prefer weapons to other crime prevention tactics, despite the risk, this implies that those with low self-control (Gottfredson and Hirschi 1990) may find defensive weapon ownership to be particularly attractive. Other theoretical approaches may have similar value in developing a clearer and more nuanced picture of decisions on how people protect themselves and their homes against crime.

Appendix A

Table A1. Basic Descriptive Data for All Variables.

	Minimum	Maximum	Mean	SD
Crime prevention items				
Leaves lights on	0	1	0.74	0.44
Extra locks installed	0	1	0.52	0.50
Burglar alarm/electronic device	0	1	0.26	0.43
Has a dog	0	1	0.23	0.42
Has neighbors watchhouse when away	0	1	0.74	0.44
Has defensive weapon	0	1	0.21	0.40
Explanatory variables				
Age	19	103	50.25	16.26
Female	0	1	0.51	0.50
White	0	1	0.82	0.38
Black	0	1	0.03	0.17
Highest education level	1	7	5.68	1.36
Married	0	1	0.45	0.50
Employed	0	1	0.67	0.47
Subcultural attitudes toward violence				
Turn other cheek	1	4	2.26	0.76
Violence never justified	1	4	2.21	0.88
Tough image	1	4	1.71	0.66
Perceptions of procedural justice	1	4	2.96	0.71
Criminality	1	4	1.91	0.93
Low social involvement	1	3	2.09	0.44
Situational reactions to threat				
Worry about victimization	1	4	1.80	0.97
Ecological perceptions of threat	1	3	1.41	0.43
Past victimization	0	7	0.80	1.02

Note: SD = standard deviation.

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Notes

1. This contrasts somewhat with Rader's (2007) more typical dichotomy of avoidance/constrained and protective/defensive behaviors. In the case of the present research, the underlying theory emphasizes weapons and the fact that their adoption implies willingness (or a preference) to engage in direct confrontation and potentially injuring or killing another person.
2. Research also indicates that firearms, at least those obtained legally, carry significant financial burden that can impact adoption. Smith and Uchida (1988:101) argued that "licensing, permits, tariffs, and additional taxation of [guns] . . . reduce their availability . . . [and] discriminates against lower income households." It seems probable that those who cannot obtain a firearm but still want the ability to deter or inflict injury upon attackers or home invaders may turn to other weapons like knives or bats, which are more readily accessible (e. g., L. W. Kennedy and Baron 1993).
3. Missing data diagnostic tests did not reveal significant associations between cases with missing data and the usage of armed or unarmed crime prevention. Rather than subject all cases with missing data to listwise deletion, we followed Allison's (2012) recommendation and used a median replacement strategy to preserve the sample size. This approach was only used if a respondent was missing no more than one item in one of the three explanatory variable indexes (i.e., low social involvement, ecological perceptions of threat, and past victimization); all others were omitted. Additional sensitivity with a listwise-deleted sample duplicated the median-imputed results reported below.
4. The Seattle codebook reports that the question about weapons is part of a series with the other crime prevention items, initiated with the following prompt: "Now I'm going to read a list of things that you may or may not do at your current home to avoid crime or reduce its impact. For each item that I read, please tell me whether it is true about your home." This prompt thus specifies that any weapons the respondent might mention were intended for defensive purposes at the home not for recreational or other reasons. There is an additional item asking about handguns the respondent kept for personal protection at work or in an automobile; however, we omitted this because the handgun in this instance is not for home defense.

5. The Seattle data allow respondents to self-report all racial categories that may apply, thus allowing for respondents to report being of mixed race. The two race categories used in the analyses reflect those who reported being White only or Black only. The reference category thus includes Hispanics, Pacific Islanders, and those of mixed race.
6. The subcultural and perceptions of procedural justice items in the Seattle data have relatively low internal consistency as measured by Cronbach's α , indicating that combining all of them into an index, even if it is theoretically justified to do so, may not be statistically appropriate since only a few items may be contributing to any relationships. Thus, consistent with other researchers publishing with these data (e.g., McNeely and Wilcox 2015), we elected to use individual items. Supplementary analyses using full indexes, even with low reliability, are consistent with the results reported later in this research.
7. Note that this measure only asks about the respondent's watching of a neighbor's house not whether the neighbors did the same at the respondent's request (which is an outcome measure).
8. The narrative presents a technical description of the statistical approach. Here, we discuss some of the methodological issues specific to exploring crime prevention choices that the Osgood and Schreck's (2007) item response theory (IRT) method can productively address. Research examining the reasons for specific crime prevention choices often employ regression techniques with separate models for each type of crime prevention (Luxenburg et al. 1994; Wilcox et al. 2006) or else only a single outcome, such as a firearm (May 1999; Smith and Uchida 1988). These approaches have difficulty if respondents undertake a range of actions to manage victimization risk, especially if many crime prevention alternatives share similar predictors. To the degree that they do, the coefficients arguably only speak to the probability a respondent will do something rather than what factors contribute toward a preference for a weapon over a nonweapon. The IRT approach described in this section addresses this limitation by creating two outcome variables and analyzing them with a structural equation model. The first outcome is the likelihood that a respondent will adopt each method of crime prevention, thus controlling for factors affecting the general tendency to take action. The second created variable is a score for the *contrast* between a respondent's likelihood of selecting a weapon to his or her likelihood of doing something else. The measurement model thus creates a very clear measure of preference for weapons over nonweapons that can be used as an outcome in a regression, with the data weighted based on the precision of the information and taking into account the item difficulties.
9. Recall that the measurement model scores are based on affirmative responses to only a single weapons item and five nonweapons items. The IRT method should

incorporate multiple items each for armed and unarmed crime prevention to capture more accurately a preference for weapons; however, the Seattle data were not configured this way. We conducted sensitivity tests with alternative expressions of the outcome measure, generally reproducing the results reported here. While affirmative responses for multiple defensive weapons items, at least in other data, appear to cluster together (Madero-Hernandez, Pare, et al. 2016), readers should nevertheless be advised that we are assuming that the IRT residual scores are measuring preference for armed crime prevention.

10. Respondents whose calculated scores are less than one standard deviation below the mean for the variable “type of crime prevention” are categorized as “unarmed,” which is to say that these respondents are on the end of the continuum that will have a statistical preference for choosing unarmed crime prevention. Respondents within one standard deviation of the mean are defined as “medium,” where those positioned one standard deviation above the mean (the “armed” category) are on the end of the continuum, that is, they are most likely to choose a weapon. Note also that Table 2 only includes respondents who reported using at least one type of crime prevention; those who scored zero on all crime prevention items were excluded from this table.
11. Detailed analyses revealed noteworthy patterns among those who reported having defensive weapons. Among those who self-reported having a weapon, a smaller proportion of this group endorsed any of the other defensive alternatives (even those that require almost no effort to implement). For instance, 95 percent of the unarmed group reported leaving lights on while not at home, where only 75 percent of those who had a weapon said that they did so. In fact, 21 respondents had a defensive weapon and reported using none of the other crime prevention options.
12. Early data analyses also included an item for worry about being physically attacked; however, this measure did not significantly affect the probability or type of crime prevention, and so this item was omitted.
13. We should note that this was the item that was reverse coded. It is plausible that respondents may have been thrown off by the change in the “direction” of the question.
14. An intriguing exception, which was focused on adolescent weapon carrying generally rather than specifically as a precautionary behavior, can be found in Wallace (2017). This study measured the effect of national-level “orientation toward violence,” an index that is a composite of 20 items measuring militarization and military activity, political stability, and crime and perceptions of crime.
15. The effect of criminality may in fact be underestimated, though to what degree is not clear. For example, Maxfield, Weiler, and Widom (2000) reported that, at least among vulnerable populations, there is an underreporting bias that can

make the effect of arrest appear weaker in magnitude. On the other hand, Morris and Slocum (2010), who sampled a vulnerable population, found that under-reporting is not particularly extreme although the respondent's ability to recall the date of arrest can be significantly erroneous. This latter concern is not problematic for this research, however.

References

- Allison, P. 2012. *Missing Data*. Thousand Oaks, CA: Sage.
- Anderson, E. 1999. *Code of the Street*. New York: Norton.
- Arthur, J. A. 1992. "Criminal Victimization, Fear of Crime and Handgun Ownership among Blacks: Evidence from National Survey Data." *American Journal of Criminal Justice* 16:121-41.
- Bellair, P. E. and C. R. Browning. 2010. "Contemporary Disorganization Research: An Assessment and Further Test of the Systemic Model of Neighborhood Crime." *Journal of Research in Crime and Delinquency* 47:496-521.
- Berg, M., E. Stewart, C. Schreck, and R. Simons. 2012. "The Victim-offender Overlap in Context: Examining the Role of Neighborhood Street Culture." *Criminology* 50:359-90.
- Black, D. 1983. "Crime and Social Control." *American Journal of Sociology* 48: 34-45.
- Bruce, M., V. J. Roscigno, and P. L. McCall. 1998. "Structure, Context, and Agency in the Reproduction of Black-on-black Violence." *Theoretical Criminology* 2: 29-55.
- Cao, L., F. Cullen, and B. Link. 1997. "The Social Determinants of Gun Ownership: Self-protection in an Urban Environment." *Criminology* 35:629-57.
- Cohen, A. K. 1955. *Delinquent Boys*. Glencoe, IL: Free Press.
- Cook, P. J., A. Braga, and M. Moore. 2011. "Gun Control." Pp. 257-93 in *Crime and Public Policy*, edited by J. Q. Wilson Stanford, CA: Stanford University Press.
- Dixon, J. and A. J. Lizotte. 1987. "Gun Ownership and the Southern Subculture of Violence." *American Journal of Sociology* 93:383-405.
- Drakulich, K. M. and R. D. Crutchfield. 2013. "The Role of Perceptions of the Police in Informal Social Control: Implications for the Racial Stratification of Crime and Control." *Social Problems* 60:383-407.
- Erksine, H. 1974. "The Polls: Control of Crime and Violence." *Public Opinion Quarterly* 38:490-502.
- Erlanger, H. S. 1976. "Is There a Subculture of Violence in the South?" *Journal of Criminal Law and Criminology* 66:483-90.
- Farrell, G. and K. Pease. 1993. *Once Bitten, Twice Bitten: Repeat Victimization and Its Implications for Crime Prevention*. London, UK: Home Office.

- Ferraro, K. 1995. *Fear of Crime: Interpreting Victimization Risk*. Albany: State University of New York press.
- Ferraro, K. and R. LaGrange. 1987. "The Measurement of Fear of Crime." *Sociological Inquiry* 57:70-101.
- Garofalo, J. 1981. "Fear of Crime: Causes and Consequences." *Journal of Criminal Law and Criminology* 72:839-57.
- Gottfredson, M. R. and T. Hirschi. 1990. *A General Theory of Crime*. Palo Alto, CA: Stanford University.
- Hemenway, D. and S. Solnick. 2015. "The Epidemiology of Self-defense Gun Use: Evidence from the National Crime Victimization Surveys 2007-2011." *Preventive Medicine* 79:22-27.
- Jacobs, B. A. and R. Wright. 2006. *Street Justice: Retaliation in the Criminal Underworld*. New York: Cambridge University Press.
- Kennedy, L. W. and S. W. Baron. 1993. "Routine Activities and a Subculture of Violence: A Study of Violence on the Street." *Journal of Research in Crime and Delinquency* 30:88-112.
- Kennedy, R. 1997. *Race, Crime, and the Law*. New York: Pantheon.
- Kleck, G. 1988. "Crime Control through Private Use of Armed Force." *Social Problems* 35:1-21.
- Kubrin, C. E. and R. Weitzer. 2003. "Retaliatory Homicide: Concentrated Disadvantage and Neighborhood Culture." *Social Problems* 50:157-80.
- Lab, S. P. 1990. "Citizen Crime Prevention: Domains and Participation." *Justice Quarterly* 7:467-91.
- LaGrange, R. L., K. F. Ferraro, and M. Supancic. 1992. "Perceived Risk and Fear of Crime: Role of Social and Physical Incivilities." *Journal of Research in Crime and Delinquency* 29:311-34.
- Lavrakas, P. and D. Lewis. 1980. "The Conceptualization and Measurement of Citizens' Crime Prevention Behaviors." *Journal of Research in Crime and Delinquency* 17:254-72.
- Lizotte, A., D. Bordua, and C. White. 1981. "Firearms Ownership for Sport and Protection: Two Not So Divergent Models." *American Sociological Review* 46: 499-503.
- Luckenbill, D. F. and D. P. Doyle. 1989. "Structural Position and Violence: Developing a Cultural Explanation." *Criminology* 27:419-36.
- Luxenburg, J., F. T. Cullen, R. H. Langworthy, and R. Kopache. 1994. "Firearms and Fido: Ownership of Injurious Means of Protection." *Journal of Criminal Justice* 22:159-70.
- Madero-Hernandez, A., B. Fisher, and P. Wilcox. 2016. "Exploring the Overlap between Individualistic and Collective Crime Prevention." *Crime Prevention and Community Safety* 18:245-65.

- Madero-Hernandez, A., P. Pare, Y. Lee, B. Fisher, and P. Wilcox. 2016. "Multilevel IRT Analysis for the Study of Crime Prevention." *Annual meeting of the American Society of Criminology*. Washington, DC.
- Matsueda, R. 2010. *Seattle Neighborhoods and Crime Survey, 2002-2003: User Guide*. Retrieved from <http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/28701> (accessed December 5, 2015).
- Maxfield, M., B. Weiler, and C. Widom. 2000. "Comparing Self-reports and Official Records of Arrest." *Journal of Quantitative Criminology* 16:87-110.
- May, D. 1999. "Scared Kids, Unattached Kids, or Peer Pressure: Why Do Students Carry Firearms to School?" *Youth & Society* 31:100-27.
- McDowall, D. and C. Loftin. 1983. "Collective Security and the Demand for Legal Handguns." *American Journal of Sociology* 88:1146-61.
- McNeely, S. and P. Wilcox. 2015. "Street Codes, Routine Activities, Neighborhood Context and Victimization." *British Journal of Criminology* 55:1-16.
- Miethe, T. D. 1991. "Citizen-based Crime Control Activity and Victimization Risks: An Examination of Displacement and Free-rider Effects." *Criminology* 29: 419-39.
- Miller, W. B. 1958. "Lower Class Culture as a Generating Milieu of Gang Delinquency." *Journal of Social Issues* 14:5-19.
- Morris, N. and L. Slocum. 2010. "The Validity of Self-reported Prevalence, Frequency, and Timing of Arrest: An Evaluation of Data Collected Using a Life Event Calendar." *Journal of Research in Crime and Delinquency* 47:210-40.
- Moyer, M. 2017, October 1. "More Guns Do Not Stop More Crimes, Evidence Shows." *Scientific American*, pp. 56-63.
- Newton, G. and F. E. Zimring. 1969. *Firearms and Violence in American Life: A Staff Report Submitted to the National Commission on the Causes and Prevention of Violence*. Washington, DC: National Commission on the Causes and Prevention of Violence.
- Osgood, D. W., B. McMorris, and M. Potenza. 2002. "Analyzing Multiple Item Measures of Crime and Deviance I: Item Response Theory Scaling." *Journal of Quantitative Criminology* 18:267-96.
- Osgood, D. W. and C. J. Schreck. 2007. "A New Method for Studying the Extent, Stability, and Predictors of Individual Specialization in Violence." *Criminology* 45:273-312.
- Parker, K. and M. Ray. 2010. "Fear of Crime: An Assessment of Related Factors." *Sociological Spectrum* 10:29-40.
- Perloff, L. S. 1983. "Perceptions of Vulnerability to Victimization." *Journal of Social Issues* 39:41-61.
- Pew Research Center. 2013. *Perspectives of Gun Owners, Non-owners: Why Own a Gun? Protection Is Now Top Reason*. Washington, DC: Pew Research Center.

- Rader, N. E. 2007. "An Empirical Assessment of the Threat of Victimization: Considering Fear of Crime, Perceived Risk and Avoidance or Defensive Behaviors." *Sociological Spectrum* 27:475-505.
- Raudenbush, S. and A. S. Bryk 2002. *Hierarchical Linear Models: Applications and Data Analysis Methods* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Raudenbush, S., C. Johnson, and R. Sampson. 2003. "A Multivariate, Multilevel Rasch Model with Application to Self-reported Criminal Behavior." *Sociological Methodology* 33:169-211.
- Sampson, R. J. and W. J. Wilson. 1995. "Toward a Theory of Race, Crime, and Urban Inequality." Pp. 37-56 in *Crime and Inequality*, edited by J. Hagan and R. Peterson. Stanford, CA: Stanford University.
- Simon, T., C. Dent, and S. Sussman. 1997. "Vulnerability to Victimization, Concurrent Problem Behaviors, and Peer Influence as Predictors of In-school Weapon Carrying among High School Students." *Violence and Victims* 12: 277-89.
- Skogan, W. G. 1987. "The Impact of Victimization on Fear." *Crime & Delinquency* 33:135-54.
- Skogan, W. G. and M. G. Maxfield. 1981. *Coping with Crime: Individual and Neighborhood Reactions*. Beverly Hills, CA: Sage.
- Smith, D. and C. Uchida. 1988. "The Social Organization of Self-help: A Study of Defensive Weapon Ownership." *American Sociological Review* 53:94-102.
- Stewart, E. A., C. J. Schreck, and R. L. Simons. 2006. "I Ain't Gonna Let No One Disrespect Me: Does the Code of the Street Reduce or Increase Violent Victimization among African-American Adolescents." *Journal of Research in Crime and Delinquency* 43:427-58.
- Stewart, E. A., R. Simons, and R. Conger. 2002. "Assessing Neighborhood and Social Psychological Influences on Childhood Violence in an African American Sample." *Criminology* 40:801-30.
- Thrasher, F. M. 1927. *The Gang*. Chicago, IL: University of Chicago Press.
- Turner, H., D. Finkelhor, and R. Ormrod. 2006. "The Effect of Lifetime Victimization on the Mental Health of Children and Adolescents." *Social Science & Medicine* 62:13-27.
- Wallace, L. 2017. "Cultural Links to Adolescent Weapon Carrying and Weapon Use: A Cross-national Study." *International Criminal Justice Review*. Retrieved from <http://journals.sagepub.com/doi/abs/10.1177/1057567717723431> (accessed June 20, 2017).
- Warr, M. 2000. "Fear of Crime in the United States: Avenues for Research and Policy." *Criminal Justice* 4:451-89.
- Weitzer, R. 1999. "Citizens' Perceptions of Police Misconduct: Race and Neighborhood Context." *Justice Quarterly* 16:819-46.

- Wilcox, P., D. May, and S. Roberts. 2006. "Student Weapon Possession and the "Fear and Victimization Hypothesis": Unraveling the Temporal Order." *Justice Quarterly* 23:502-29.
- Wilcox Rountree, P. and K. Land. 1996. "Perceived Risk versus Fear of Crime: Empirical Evidence of Conceptually Distinct Reactions in Survey Data." *Social Forces* 74:1353-76.
- Wolfgang, M. E. and F. Ferracuti. 1967. *Subculture of Violence: Towards and Integrated Theory in Criminology*. London, UK: Travistock.
- Wright, J. and P. Rossi. 2008. *Armed and Considered Dangerous*. New Brunswick, NJ: Transaction Publishers.
- Wright, J., P. Rossi, and K. Daly. 1983. *Under the Gun: Weapons, Crime, and Violence in America*. New York: Aldine de Gruyer.

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