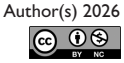
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Context, Constraints, and Precautionary Action: A Preliminary Test of a Choice-Oriented Perspective of Crime Prevention

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Abstract

An explanation of precautionary behavior may be essential for effective and safe crime prevention. We present and test a model presenting three independent but simultaneously conflated reasons affecting the likelihood of adopting precautions: precautionary engagement, precautionary preference (lethal or nonlethal), and precautionary difficulty. To explain engagement, we adapt concepts from choice models in classical deterrence as a heuristic applicable to any precaution. We also argue that preference relates to some quality of a specific class of precautions, arising from personal attributes that make the quality gratifying, and address precautionary difficulty statistically. Using a bifactor multilevel item response theory (IRT) regression framework and data from a nationally representative sample of 1,500 adults in the United States, we found that concepts of choice are successful at predicting the decision to adopt precautions generally, while personal attributes tended to be strongly associated with individuals' preferences for lethal forms of self-protection.

Keywords

crime prevention, crime precautions, choice theory, victimization, crime

Introduction

Whenever academics and practitioners speak of "crime prevention" they often mean state-administered or place-based strategies, like focused deterrence (Wozniak, 2023). Crime prevention, however, also includes the actions individual citizens take on a daily basis to protect themselves and their property—a point recognized as essential to crime control in the landmark report of the President's Commission on Law Enforcement and Administration of

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Justice (Katzenbach, 1967). People employ all manner of strategies to manage risk, like security cameras, complex door locks, or lethal weapons (Hindelang et al., 1978; Norris & Kaniasty, 1992; Rountree & Land, 1996); however, people vary in both the amount and types of precautions taken.

Understanding the principles guiding citizens' precautionary decisions is important for two reasons. First, the ability to encourage people to adopt effective and appropriate solutions to crime is inherently valuable. Many modern theories descended from the classical school in principle grant that citizens are not passive, but can alter the crime equation and eliminate opportunity (Gottfredson & Hirschi, 2019; Nagin & Paternoster, 1993; Schreck et al., 2022). If this is so, research on precautions could prompt genuinely innovative prevention policy where the citizenry directly experiences the benefits. A second reason is the need to understand the principles attracting people to precautions that pose threats to public health. For example, the prevalence of lethal weaponry for personal defense has contributed to higher firearm homicide rates and firearm-related suicide and accidental injury (Grossman et al., 2005; Siegel et al., 2013), as well as fueled the expansion of illicit markets in stolen firearms.

Although precautionary behavior has received intermittent scholarly attention, there is enough to suggest a complex dependent variable where decisions are not simply reducible to the management of risk. We advance a choice-based model of precautionary behavior that recognizes three components acting simultaneously (and not necessarily in cooperation) on the probability of adopting precautions: (a) precautionary engagement, (b) precautionary preference, and (c) precautionary difficulty. The fear of crime and risk interpretation literatures suggest that precautions of all kinds share essential qualities and thus, to an extent, are explainable with a set of general principles (Ferraro, 1995; Madero-Hernandez et al., 2016; Warr, 2000). *Precautionary engagement* is thus the component that captures someone's inclination to adopt a precaution of *any* type, which we explain using a heuristic that reimagines the three dimensions of classical deterrence: increased belief that victimization is certain to happen, greater capability to swiftly access any precaution, and anything that worsens the severity of victimization's consequences.[1] *Precautionary preference* is an attraction or aversion to a specific quality present in some precautions but not others (Lab, 1990; Rosenbaum et al., 1998; Skogan & Maxfield, 1981), where choices are expressions of relatively enduring personal attributes and social orientations and unrelated to awareness of threat. *Precautionary difficulty* is the final piece, which accounts for how precautions themselves are not equally easy to acquire or use.

Our goal is *not* to assess the effectiveness of precautions on victimization risk, but to offer proof of concept and an initial assessment of our framework's empirical potential. Using a large, nationally representative survey of U.S. adults, we apply a bifactor item response theory (IRT) model to disentangle precautionary engagement from preference and precautionary difficulty. We then test whether threat-related factors (certainty, swiftness, and severity) predict precautionary engagement while personal attributes—such as self-control, violent conduct norms, and political orientation—predict weapon preference. By conceptualizing precautionary behavior as a product of these distinct components, this study clarifies mixed empirical findings in the literature and suggests a path forward for crime prevention policy, public health, and the broader understanding of the agency of crime targets in criminological theory.

Overview: Unpacking Precautionary Behavior

Precautionary behavior refers to *deliberate* choices an actor makes with an intent to lessen the risk of falling victim to a crime, whatever that choice may be or its relevance to actual vulnerability. From 1967, with the Katzenbach Commission report, precautionary behavior among citizens was linked to fear of crime and awareness of risk. By the early 2000s, a cluster of logically connected hypotheses—such as the "collective security" and the "fear and loathing" hypotheses

(McDowall & Loftin, 1983; Newton & Zimring, 1969)—were combined into "situational reactions to threat" (Wilcox et al., 2006). That is, the assumptions guiding the literature on individual precautionary behavior generally assume an actor who is rational and responsive to real or imagined threats and the perceived costs of crime (Ferraro, 1995; Wilcox et al., 2003). Yet, current research indicates that these choices also receive an infusion from personal (i.e., subjective, nonrational) considerations either entirely unrelated to safety or conflated with it (Warner et al., 2022). Furthermore, many of those who attempt to manage threat complain of the effects on their quality of life (Jackson & Gray, 2010), indicating that the discretion to act has practical limits. A good theory, therefore, must recognize that while a precautionary decision might have a rational component, what someone does or fails to do is ultimately a compromise between need, constraint, and subjective feelings about qualities that are natural to some precautions but not others. In this section, we develop the general components that influence precautionary decisions.

Much research focuses on describing specific kinds or ad hoc groupings of precautions, such as avoidance and constrained behavior, or weapons, conceptually implying dissimilarity. Yet, Madero-Hernandez et al. (2016), in a crucial study, reported positive correlations between *all* types of precautionary behaviors (see, also, Schreck et al., 2018). This suggests that precautionary behavior has unitary properties that make a general scale measuring precautionary usage appropriate and that also suggest all precautions have a common set of predictors. Various measures of "threat awareness"—disorder in the neighborhood, victimization likelihood—consistently predict precautionary behavior (Ferraro, 1995; Giblin et al., 2012; Madero-Hernandez et al., 2016, 2022; Skogan, 1993). Such findings support the view that, at their core, all precautions are defined by a similar purpose: to manage a problem. *Precautionary engagement*, the extent of general precautionary behavior, captures this unitary aspect and similarity of purpose.

At the same time, the literature suggests that there are important contours to precautionary behavior that are conflated with engagement. The first source of conflation stems from evidence that people appear to be responsive (favorably or unfavorably) to qualities evident with some precautions but not others. For example, some studies show females have more precautionary engagement than males; however, males are much more likely than females to acquire lethal weaponry for protection (Madero-Hernandez et al., 2016, 2022; Rader et al., 2009; Wilcox et al., 2006). A conclusion that there is a sex difference in precautionary engagement, therefore, is possibly misleading to the extent the two groups differ only in *how* they prefer to engage. In other words, operating alongside, and confounded with, precautionary engagement is *precautionary preference*. Lethality is a quality intrinsic to some precautions, and lethality's attractiveness depends on someone's orientation toward risk, their approval of using force, status concerns, as well as broader ideological beliefs that make weapons part of one's identity (Berg & Schreck, 2022; Schreck et al., 2018; Warner & Thrash, 2020). As a result, the factors that shape preferences for lethal precautions are not necessarily identical to those that lead people to take precautions more generally, which means the two must be analytically separated.

The second source of conflation is *precautionary difficulty*, which arises from natural differences between precautions themselves and is observable from the fact that each has a base rate of prevalence in the population. Smith and Uchida (1988), for example, observed that expense and regulation deter the adoption of defensive weaponry. In fact, precautionary difficulty applies to *every* precaution, as each differs from the other for myriad reasons including cost, ease of acquisition, and convenience. Precautionary difficulty means that someone might prefer weapons yet still have a higher concentration of nonlethal forms of protection because these are easier to obtain and use. Precautionary difficulty thus constricts choice throughout the population for reasons that are *exogenous*, muddying efforts to locate basic facts about precautionary action. We address precautionary difficulty statistically, as explained later.

Theorizing Precautionary Engagement and Preference

People have a degree of agency in their precautionary choices; however, their choices also involve reconciling different or competing goals, and this goal tension is why the conflation of precautionary engagement and precautionary preference is analytically problematic. Precautionary engagement reflects principles common to all precautions, and thus is most aligned with objectively rational decision-making, that is, action responsive to awareness of a problem and access to solutions. Engagement is more probable when individuals believe a victimization threat is likely (certainty), have or perceive easy access to solutions (swiftness), or expect serious harm from victimization (severity) (Berg & Schreck, 2022; Schreck, 2021; Schreck & Berg, 2021). Since these constructs capture the common link shared by any precaution, we tentatively theorize that they should not be a major influence on preference except in very special cases.

Precautionary preference reflects how people reconcile a fundamental desire for safety against mischance with subjective self-interest, as indicated by personal attributes such as low self-control (Schreck, 1999) and ideological orientations (Schutten et al., 2023; Stewart et al., 2006) that define some quality in a precaution as gratifying and desirable. We should note that personal attributes might also influence how people perceive their surroundings (Gottfredson & Hirschi, 2019), affecting their awareness of a problem; however, after accounting for these perceptions, the remainder of an attribute's effect should capture desires unrelated to managing victimization risk. Because theoretically relevant attributes generate attraction or revulsion to characteristics specific to some precautions, and not necessarily those common to precautions generally, personal attributes should not play a major role in precautionary engagement.

Organizing Dimensions of Contextual Decision-Making Constraints on Precautionary Engagement

Certainty. Precautionary engagement creates an imposition on quality of life (Gray et al., 2011; Schreck & Berg, 2021). People would prefer to pursue other interests without restraint, so precautionary engagement depends partially on perceptions, observations, or experiences that inspire a high *certainty of victimization*. Different aspects of "reactions to threat" from prior research capture certainty of victimization (Wilcox et al., 2006). A valid measure of certainty is the individual's cognitive perceptions about the *likelihood* of victimization (Ferraro, 1995; Giblin et al., 2012; Rountree & Land, 1996; Yuan & McNeeley, 2016). Relatedly, prior crime victimization would be an especially salient indicator of one's risk (Madero-Hernandez et al., 2016, 2022; Rountree & Land, 1996; Schreck et al., 2018). Information from observation might also matter. Ferraro's (1995) work on neighborhood incivilities (or disorder) and precautionary behavior, related to the "broken windows" thesis of Kelling and Wilson (1982), is another example of certainty. Here, physical cues in the environment—trash, dilapidated buildings, youth loitering—signal symbolically a sense that trouble is nearby and that the residents are unable to exercise effective social control. In sum, we hypothesize that individuals who self-report having a higher likelihood of victimization, who have experienced victimization in the past, who perceive disorder around them, and who have a low opinion of police performance will all perceive a greater certainty of victimization, resulting in increased precautionary engagement.

Opinions about police performance are potentially a special case whereby a measure of certainty might have implications for the desirability of lethal precautions. The "collective security" hypothesis (McDowall & Loftin, 1983) relates how the police are the authorized wielders of lethal force. When citizens believe the police perform effectively, there is less upside to otherwise risky defensive weapon ownership (or any precaution). As confidence in police performance decreases, there is increasing awareness of a specific problem: if lethal protection is needed, its authorized agents cannot deliver it. Accordingly, we hypothesize that people who believe the police are ineffective should thus prefer lethal self-help.[2]

Swiftness. The second contextual element incentivizing engagement is someone's ability to quickly and easily access and use any precaution—that is, "*swiftness*." Swiftness captures how people differ in their ability to bear the effort and sacrifice precautions generally require, thus limiting engagement. Personal income appears directly relevant because many precautions—lethal or nonlethal—require both up-front and ongoing costs that might be prohibitive for economically marginal individuals (Madero-Hernandez et al., 2022; Rountree & Land, 1996; Smith & Uchida, 1988). Financial resources provide access to the full range of solutions for managing victimization risk, which should increase the rate of precautionary engagement.

Swiftness also could reflect self-confidence with avoiding victimization (Sharkey, 2006), which we call "personal efficacy." Precautions are strategies for managing risk and, therefore, confidence in one's agency makes precautionary engagement psychologically easier; however, lower levels of personal efficacy imply mental barriers that should deter precautionary engagement. Sharkey (2006) suggests that street efficacy creates confidence in a range of conflict-avoiding strategies and is not intrinsically about weapons, though weapons could be part of street efficacy. We therefore hypothesize that personal efficacy should increase precautionary engagement, but without creating a preference for either weapons or non-weapons.[3]

Severity. The third element incentivizing precautionary engagement is *severity*, which has two complementary aspects related to the perceived costs of victimization. First, it reflects the anticipated pain of victimization, where the prospect of physical injury, financial loss, or emotional harm causes anxiety (Hale, 1996; Perloff, 1983; Warr, 2000). We hypothesize that greater worry about victimization increases precautionary engagement. The second aspect of severity is akin to "altruistic fear" (Warr & Ellison, 2000), where individuals feel greater motivation to accept the burdens of precautions to protect what they value the most. Marriage and children, for instance, both imply a valued relationship that victimization endangers; for example, married persons who suffer assault victimization are more likely to divorce (Tark et al., 2008). The same is likely true of social attachments more generally, and there is evidence that those who report weak ties to others employ fewer precautions (Schreck et al., 2018). We thus hypothesize that personal relationships generally increase the likelihood of precautionary engagement.

Personal Attributes Affecting Precautionary Preference. Broadly, we assume that people act in their own interest as they understand it (Gottfredson & Hirschi, 2019). These diverse and sometimes competing interests are often expressed in beliefs and decision tendencies. In this study, we focus on lethality and highlight beliefs that endorse violence, political conservatism, and low self-control. We do not intend these to be an exhaustive list, but rather a starting point that builds upon limited empirical evidence to date (Schreck et al., 2018).

Violent Conduct Norms. Accounts of violent subcultures often highlight the salience of personal honor and status, which are undermined by acts of disrespect—including victimization (Anderson, 1999; Rios, 2011). In this way, those who endorse violent conduct norms are deeply concerned with victimization risk (Fader & León, 2024; Stewart et al., 2006); however, implicit in many accounts is that "precautions" have to abide by certain rules. Reliance on third parties, especially "legitimate authorities," is especially discouraged—precluding a range of precautionary actions (like community watches). Instead, one is expected to rely on oneself for protection and to convey one's ability to self-protect by projecting power, toughness, or intimidation (Wright & Rossi, 2008). Violent conduct norms about honor and violence should instill a preference for weapons.[4]

Political Conservativism. An important aspect of political conservativism is an anxious worldview in which the existing social order is in danger from crime, which suggests that the full spec-

trum of available precautions would be perceived as attractive for managing threat (Katzenbach, 1967). Gun ownership, nevertheless, is a distinctive feature of conservative political identity, entangled with notions of racial resentment, fear of crime, and heritage (Cramer, 1995; Filindra & Kaplan, 2016; Pickett & Chiricos, 2012). The topic of gun rights is so central to conservativism that party members are willing to vote solely on a candidate's position concerning gun control (Goss, 2009). Related to this is the presence of considerable organizational support around gun ownership, which has created a strong group identity that confers social approval to weapon ownership (Lacombe, 2019). In short, the worldview of conservativism (which might not map exactly to the individual's own anxiety of falling victim) suggests that increasing identification with right-wing politics should correspond to a higher rate of precautionary engagement featuring all precautions, via increasing certainty of victimization (in an abstract rather than proximate sense), but with a disproportionate rate of adopting lethal precautions.

Self-Control. Low self-control is the habitual inability to consider long-term consequences when confronted with the opportunity for immediate and easy reward (Gottfredson & Hirschi, 1990). Precautions, by definition, presuppose the ability to consider the consequences of an uncertain and potentially distant future event. Precautionary choices that could provide immediate gratification of other desires (besides safety) might appear very attractive, even if they are risky to possess. Other precautions, however, will not be. For instance, those that are inherently tedious like checking and locking doors and windows. Defensive weapons and firearms, therefore, might be highly attractive if one is prepared to ignore risk—they might be used recreationally, for instance, or as an acquisition to impress others. As Schreck et al. (2018, p. 336) stated, "weapon ownership . . . has a special set of downsides: relatively high monetary cost, legal liability, and physical injury, including death." In short, low self-control likely creates a preference for "thrilling" choices like defensive weaponry by removing concern for the risk associated with their possession. Figure 1 depicts a simplified version of the core theoretical model.

Summary of Research Questions

As indicated above, our understanding of the literature suggests that precautionary behavior cannot be understood without decomposing it into three elements: precautionary engagement, precautionary preference, and precautionary difficulty. Individuals have a degree of agency over two elements: engagement and preference. Precautionary difficulty is different, in that it conveys fundamental distinctions between the precautions in their accessibility throughout the population and that must be accounted for but that arise for reasons that are exogenous to the main theory.

Engagement is the extent of precautionary usage, without regard to the kind chosen. Engagement increases when the certainty of victimization increases, and here we explore multiple indicators of certainty: perceived risk of victimization, prior experiences with victimization, incivilities, perceptions of police performance. Engagement also increases when a person can swiftly obtain and employ precautions, which is more likely when: income is higher, personal efficacy is high. Finally, engagement increases when the consequences of victimization are severe, as suggested by worry about victimization, the presence of valued relationships (marriage, attachments to others, and children).

Preferences are independent of engagement because they convey the influence of personal needs and desires unrelated to managing victimization risk. Most of the time, these needs and desires emerge from relatively enduring personal attributes and social orientations—although the endorsement of these predispositions may vary somewhat across situations. All three should generate a preference for lethal forms of self-protection. We generally do not expect such consistent effects for variables that principally are responsible for engagement; however, worsening

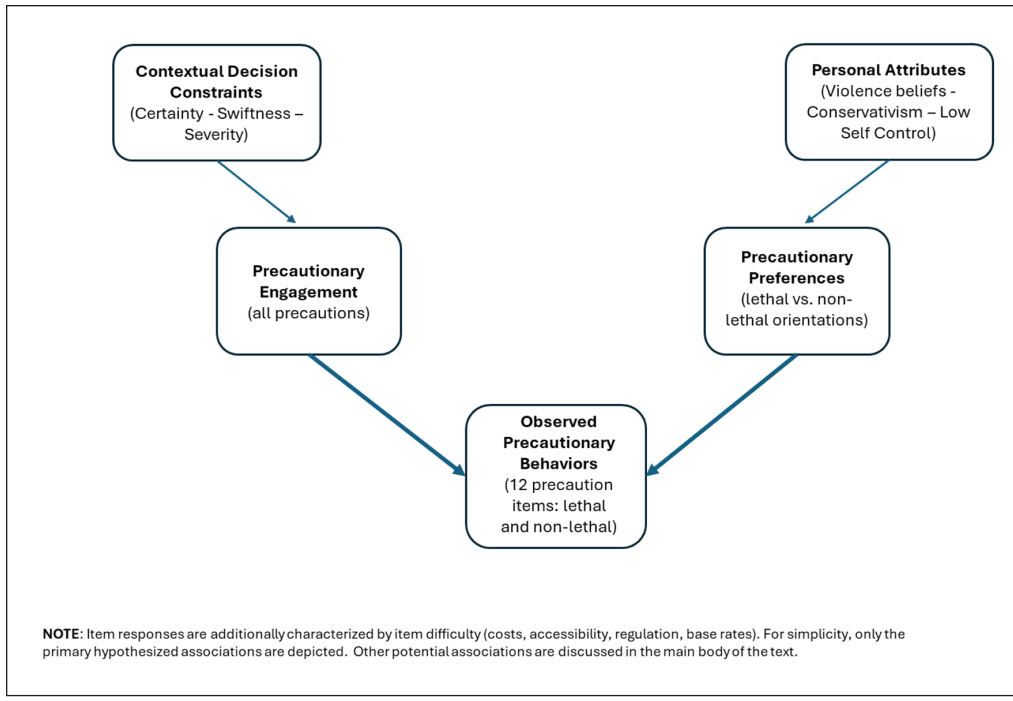


Figure 1. Simplified conceptual model.

perceptions of police performance theoretically should manifest a preference for lethal forms of self-protection.

Data and Methods

Data

To test our research hypotheses, we use cross-sectional data from the *Reactions to the Threat of Crime in Offline and Online Spaces* (Wilcox & McNealey, 2021).[5] The *reactions* study focused on various dimensions of concern about crime in both physical and virtual spaces, including cognitive perception of victimization risk, emotional worry or anxiety, and behavioral reactions such as self-protective actions. The study also included a rich array of substantively informed correlates, derived from other prominent surveys including the National Crime Victimization Survey and the National Youth Survey.

YouGov administered the anonymous survey over the course of several weeks in December 2021, obtaining a representative sample of 1,500 adults residing in the United States from their online panel of 2 million U.S. residents while oversampling urban and rural residents to achieve equal numbers or urban, suburban, and rural respondents. All descriptive results were weighted to adjust for the oversampling of these groups. To accomplish representation, YouGov employed a complex, multi-stage, matching-based sampling strategy. First, they created a synthetic sampling frame from the 2019 Current Population Survey (CPS) and selected respondents (with replacements) from its base panel by matching to the CPS sample on key demographic characteristics such as race, sex, age, and education. To correct for imperfections, the selected cases were then weighted to the synthetic sampling frame using propensity scores as a function of the matching variables, region, and urban/suburban/rural location. Those propensity weights were

next post-stratified to produce the final sample weights. While complex, YouGov samples are highly regarded for representativeness and completeness (virtually eliminating nonresponse bias), yielding data superior to other opt-in samples (Graham et al., 2021). Given the difficulty and expense of collecting representative samples with strong response rates, criminologists are increasingly turning to YouGov samples to test key questions related to theory, policy, and public opinion (Burton et al., 2021; Pickett et al., 2022; Schutten et al., 2023; Silver et al., 2022). Except for self-reported income (missing = 188), most variables in the *Reactions* data have between zero and five missing cases.[6]

Measures

Dependent Variables. Our measure of precautionary behavior consists of nine dichotomous (yes/no) items. Four items capture ownership of potentially lethal precautions, asking respondents "[do you] usually engage in the following, when the opportunity presents itself, because of concern about crime": carry a knife for defense, carry a gun for defense or keep a gun unlocked near their bed, keep a weapon other than a gun near their bed, and have an unloaded gun stored away in their house. Five items measure nonlethal precautionary actions, asking respondents whether they, from concern about crime: engage in at least one form of car-related security (park in well-lit areas, secure/hide belongings in their car, lock car doors), lock home doors when leaving home or going to bed, pick personal items off lawn before bed, check/lock windows when leaving home, and leave lights on when away from home. On average, respondents employed 4.6 precautions (SD = 1.99). Of these, the overwhelming preponderance was for nonlethal kinds (3.74 nonlethal vs. 0.88 lethal). We describe in the next section how the statistical analysis transforms these items into latent variables for precautionary engagement and precautionary preference.

Independent Variables. Drawing upon the theory described earlier, this study includes measures that tap perceived certainty of victimization, the perceived ease or effectiveness of precautionary behavior, and perceived severity of potential victimization. *Perceived certainty of victimization* is measured with four variables: (a) likelihood of future victimization, (b) past victimization, (c) perceived neighborhood disorder, and (d) attitudes regarding perceptions of police performance. Respondents were asked to indicate (on a five-point scale, ranging from "*very unlikely*" to "*very likely*") the subjective risk of experiencing any of six types of criminal victimization in the next 12 months, and then averaged to create a perceived risk index (α = .91, M = 1.92, SD = .78).[7] Prior victimization is a dichotomous (1 = yes) measure indicating whether, during the preceding 12 months, the respondent experienced any one of the same crimes measured with the perceived certainty measure at least once (M = .19, SD = .39). Perception of neighborhood disorder was an average score index of four items asking respondents to indicate, on a scale of 1 to 5 (with higher scores signifying more disorder), the extent to which the following were problems in their community: (a) litter, broken glass, or trash; (b) vacant or abandoned buildings; (c) people selling or using drugs; and (d) news of violence (α = .85, M = 2.34, SD = .95). Finally, following Maguire and Johnson (2010), we measured perceptions of police performance with an eight-item global scale tapping perceptions on a wide variety of dimensions, including police were quick to respond to calls; supportive of victims; good at maintaining order and catching offenders; informative about crime prevention, approachable, fair, and unbiased; and then averaging respondents' level of agreement according to a five-point scale (α = .94, M = 3.48, SD = .85). Higher scores are indicative of positive perceptions of police performance.

Ease of taking precautionary measures (*swiftness*) was measured with variables tapping (a) family income and (b) self-efficacy. Family income was measured on a 12-point scale ranging from 1 = "*less than $10,000*" to 12 = *"$140,000 or more*" (M = 6.16, SD = 3.33). Personal

efficacy against victimization was an average of four items derived from Sharkey (2006) and Gibson et al. (2014) asking respondents the extent to which they felt they could take care of themselves, felt responsible for things that happened to them, and felt that they could do things to avoid fights as well as avoid being scared ($\alpha = .68$, $M = 3.98$, $SD = .59$).

Perceived Severity of Victimization. The first indicator of severity was an average-score index of six items asking respondents to indicate how worried/afraid of experiencing the same six types of victimization measured in the perceived certainty index discussed earlier, *regardless of how likely they thought these things would happen*. Responses ranged from 1 = "*not at all worried/afraid*" to 5 = "*Very worried/afraid*" ($\alpha = .95$, $M = 2.24$, $SD = 1.09$). Second are dichotomous variables tapping whether respondents were currently married ($M = .45$, $SD = .50$) and whether that have children below 18 in the household ($M = .23$, $SD = .42$). Finally, attachment to others is an average-score index of four items capturing the extent respondents had family and/or friends that cared about them, had people in their lives who provide help/suggestions/advice, and had family and friends that they loved ($\alpha = .71$, $M = 4.00$, $SD = .74$).

Personal Attributes. The first attribute measures adherence to violent conduct norms with an average-score index of six survey items asking respondents to rate agreement with attitudes supportive of toughness/aggression, retaliatory violence, and male gun ownership as status ($\alpha = .79$, $M = 2.12$, $SD = .72$).[8] A single item captured political conservatism, where respondents self-reported their political leanings (1 = "*very liberal*" . . . 5 = "*very conservative*"; $M = 3.10$, $SD = 1.2$). The low self-control index is an average of four items capturing the extent (on a 5-point scale) respondents reported acting on the spur of the moment, pleasure-seeking, risk-taking, and seeking excitement and adventure over security ($\alpha = .77$, $M = 2.7$, $SD = .82$).

This study also included demographic controls. Age is measured in years ($M = 48.5$, $SD = 17.77$). Sex is measured as "Male" (1 = yes, 0 = no; $M = .48$, $SD = .50$). Race is measured as "White" (reference category, $M = .62$, $SD = .48$), "Black" ($M = .12$, $SD = .33$), "Hispanic" ($M = .17$, $SD = .38$), and "Other" ($M = .09$, $SD = .28$). Finally, we control for living in areas with an urban ($M = .29$, $SD = .45$) or rural [$M = .27$, $SD = .44$] census designations, suburban' being the reference category).

Multivariate Statistical Methods

Osgood and Schreck's (2007) multilevel IRT-based regression technique is especially well-suited to the study of precautionary behavior, given its ability to isolate precautionary engagement from both precautionary preference and precautionary difficulty. A further advantage is its ability to adjust estimates for measurement precision, allowing researchers to use information from all respondents. Level 1 is a measurement model that extracts latent variables for both engagement and preference, while simultaneously accounting for difficulty. Level 2 is a structural model incorporating predictors for both latent variables. Below is the model setup in mathematical notation (Raudenbush & Bryk, 2010):

At Level 1:

$$Log\left[odds\left(Y_{ij}=1\right)\right]=\beta_{0j}+\beta_{1j}Preference+\sum_{i=2}^{1}\beta_{ij}D_{ij} \tag{1}$$

At Level 2:

$$\beta_{0j}=\gamma_{00}+\gamma_{01}X_{1j}+\gamma_{02}X_{2j}+\ldots+u_{0j} \tag{2}$$

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

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

Level 1 outcome is the response of individual *j* to precaution item *i* ($Y_{ij} = 1$ if individual *j* adopted precaution item *i*; otherwise, $Y_{ij} = 0$). Since the precautionary items are dichotomous, our logistic link function is the Bernoulli probability distribution. Our analysis, therefore, speaks to the extent of the variety of precautions individuals adopt.

Latent Variable 1: Precautionary Engagement. Equation 1 designates three underlying reasons individual *j* will endorse precautionary item *i.* β_{0j} is the first of these and, being Equation 1's constant, is thus a probability applicable equally to all precautions. The residual term (u_{0j}), in Equation 2, captures individual differences in that probability and thus defines β_{0j} as a latent variable measuring individual *j*'s precautionary engagement. The degree respondents differ from one another in β_{0j} is reflected in the variance of the residual (τ_{00}). The explanatory variables are incorporated in Level 2 (Equation 2), and γ_{0j} is the log-odds change in the probability of adopting precautions per unit increase in explanatory variable *j*.

Precautionary Difficulty. The second piece affecting the selection of precaution item *i* is its precautionary difficulty (β_{ij}), corresponding directly to the psychometric concept of "item difficulty" in the IRT framework, capturing the wide range of differences intrinsic to each precaution that affect their likelihood of adoption. Equation 1 designates dummy variables (D_{ij}) indicating which precaution is associated with each response, adjusting precautionary difficulty by assigning less prevalent precautions a lower log-odds score for β_{ij}. Since precautionary difficulty applies to everyone, omitting the residual term in Equation 4 constrains β_{ij} to equivalence with the population base rate γ_{i0}. The descriptive statistics, item base-rates, and base-rate robust standard errors for each of the precaution items are reported in the appendix.

Latent Variable 2: Precautionary Preference. Whether precaution *i* is lethal or nonlethal is the final piece affecting its odds of selection. β_{1j} captures preference for one type over the other by assigning each lethal precaution a positive score and each nonlethal precaution a negative score. To equalize the difference in the number of items, lethal items receive a score of .555 (i.e., the proportion of *nonlethal* precaution items) and each nonlethal precaution received a score of −.445 (minus the proportion of *lethal* items). The residual term (u_{1j}) in Equation 3 makes β_{1j} a latent variable measuring individual *j*'s precautionary preference. Centering β_{1j} in Equation 1 on the group mean and omitting the intercept defines a score of zero as mirroring the population-average preference; scores higher than zero thus indicate individual *j*'s collection of precautions contain an above average proportion of weapons, scores less than zero signal an above average proportion of nonlethal precautions.[9] Centering also isolates β_{1j} from precautionary engagement; no part of any predictor's observed effect on engagement has any relevance to preference, and vice versa. Because individuals who endorse no items would also have a score of zero, and since assessments of preferences are less reliable among those who endorse very few precautions, the ability of the IRT method to adjust for measurement precision is a crucial advantage.

In Equation 3, γ_{1j} conveys how much stronger someone's preference is for one type of precaution over the other per unit change in explanatory variable *j*. Consistent with the coding of β_{1j}, a positive value for γ_{1j} signifies how much likelier (in log odds) lethal precautions would be chosen over nonlethal, and a negative value indicates the same but for nonlethal precautions over lethal. If γ_{1j} is nonsignificant, explanatory variable *j* does not affect preference (irrespective of its effect, if any, on precautionary engagement). Item difficulty, noted earlier, can affect choice for reasons

unrelated to preference and so could be mistaken for preference. Accounting for precautionary difficulty in Equation 4 adjusts γ_{1j} by statistically making all precautions—lethal or nonlethal—equally difficult to obtain. The variance of the residual (τ_{11}) is the extent to which the respondents differ in their preference for lethal and nonlethal precautions. As τ_{11} increases, the distinction between respondents is greater.

Model Assumptions. The Osgood and Schreck (2007) method is a one-parameter model, which involves several data-related assumptions. First, the appropriateness of the method depends on the same suite of precautionary items suggesting the presence of both engagement and preference. With respect to engagement, factor analysis confirmed that all nine precautions have reasonably strong and positive loadings on the first factor, ranging between .44 and .62 (*eigenvalue* = 2.58, accounting for 28% of the variance). The second extraction confirmed the presence of precautionary preference; the items separated cleanly into lethal and nonlethal dimensions, where lethal precautions correlated more strongly with each other than with the nonlethal precautions and vice versa (*eigenvalue* = 1.7, explaining 19% of the variance). Second, the Osgood and Schreck (2007) model assumes that precautionary items should exhibit local independence. Although Osgood and Schreck (2007) did not conduct any tests of local independence, they used as their estimator penalized quasi-likelihood (PQL) with underdispersion to address likely violations of the assumption. Our model also exhibited significant underdispersion ($\sigma^2 = .59$), so we also employed PQL. As a further step, we conducted a *Q3* test of local independence to detect precautionary item-pairs with problematically correlated residuals and found no issues.[10] A one-parameter model further assumes a multivariate normal distribution among the residuals for the latent variables. The nonlinear link function (see Equation 1), however, does not require multivariate normality and is designed to avoid fitted values below zero or more than one (Osgood et al., 2002). Furthermore, the significance tests employ robust standard errors, which also do not require multivariate normality. HLM's own automatic checks for violations of multivariate normality, in any event, were negative.

Results

We begin with an overview of model performance.[11] In a baseline intercept-only model, the residual unexplained variance (Level 1 *r*) in someone's probability of endorsing a precaution was .97; our full model reduced the unexplained variance by 39% ($r = .59$). The −2 log-likelihood contrast between the latent variable models with and without predictors was 308.74, clear evidence that our explanatory variables significantly improved model fit ($p < .0001$). Although our hypotheses focus on engagement and preference, adding the item difficulties (i.e., precautionary difficulty) to the baseline intercept-only model reduced Level 1 *r* by 14.6% ($r = .82$), a sign of precautionary difficulty's importance and that research efforts that fail to control for it omit a crucial element responsible for the patterning of precautionary behavior.

Explaining Precautionary Engagement

We turn next to respondents' underlying tendency to adopt precautions of any kind. Because we use PQL with underdispersion, we follow Osgood and Schreck (2007) in assessing the approximate *z* test significance of between-individual variation in the latent variables by dividing the variable's variance component (τ) by its standard error. The variance component for engagement is 2.12 ($SD = .10$) and the ratio of 20.58 is highly significant ($p < .0001$), confirming that people differ in their odds of precautionary engagement to an extent that chance is highly unlikely to account for why. The latent variable for engagement had acceptable reliability (.73), suggesting

Table 1. Multivariate Results Relating Explanatory Variables to Precautionary Engagement and Precautionary Preference.

	Precautionary engagement			Precautionary preference		
Variable	γ	*Odds ratio sig.*	*SD*	γ	*Odds ratio sig.*	*SD*
Age	.01	1.01***	.00	−.01	.99**	.00
Sex: Male	.18	1.20*	.09	.42	1.53**	.15
Race: Black	−.03	.97	.13	.00	1.00	.21
Race: Hispanic	−.04	.96	.14	−.23	.80	.22
Race: Other	.08	1.09	.16	−.53	.59*	.26
Urban	−.04	.96	.11	.25	1.29	.17
Rural	.16	1.18	.11	.67	1.96***	.18
Certainty						
Likelihood of victimization	.14	1.15*	.07	−.14	.87	.11
Prior victimization	.34	1.41**	.12	.16	1.17	.18
Neighborhood disorder	−.04	.97	.05	.16	1.17*	.08
Police are effective	.05	1.05	.06	−.29	.75***	.09
Swiftness						
Income	.02	1.02	.02	−.01	.99	.02
Personal efficacy	.58	1.78***	.08	.10	1.11	.12
Severity						
Worry about victimization	.15	1.16**	.05	−.28	.75***	.08
Married	.27	1.31**	.10	.22	1.24	.16
Children	.19	1.21*	.11	−.30	.74*	.18
Attachment to others	.24	1.27***	.07	−.33	.72***	.10
Personal attributes						
Violent conduct norms	.19	1.21**	.07	.69	1.99***	.11
Political conservativism	.12	1.13***	.04	.23	1.25***	.06
Low self-control	.00	1.00	.06	.24	1.28**	.09

Note. $N = 1{,}500$.
*($p < .05$, one-tailed). **($p < .01$). ***($p < .001$).

that a high probability of adopting one precaution generally corresponded with higher odds of adopting any of the other precautions.

In Table 1, which reports multivariate explanatory results, the coefficients in the "precautionary engagement" column report the log-odds change in someone's probability of endorsing a precaution, per unit increase in the explanatory variable. For example, older Americans—after controls for other circumstances and personal attributes—were more likely to adopt precautions (1% more likely with each year of age). Males generally had higher odds of precautionary engagement (odds ratio [OR] = 1.20); none of the other demographic measures influenced engagement.

Assessments of certainty, swiftness, and severity played a noticeable role in decisions to take precautions. Precautionary behavior was more probable among those with elevated perceptions of victimization risk ($OR = 1.15$) and who had prior victimization experiences ($OR = 1.41$). Neither perceptions of neighborhood disorder nor perceptions about police performance affected precautionary engagement, net of the other variables. We consider possible reasons why so in the conclusion section. We included two measures of swiftness capturing financial and psychological facilitators of precautionary behavior: income and personal efficacy. Each unit increase in personal efficacy resulted in respondents being 78.4% more likely to use precautions ($OR = 1.78$).

Table 2. Observed Probabilities of Precautionary Engagement, by Type of Precaution, by Level of Precautionary Preference.

Relative level of lethal/nonlethal preference	Observed probability of precautions			
	Probability lethal	Probability nonlethal	Probability all precautions	*N*
Above average lethal preference (≥1 *SD*)	.47	.61	.55	172
Average lethal/Nonlethal preference (>−1 *SD* and <+1 *SD*)	.12	.87	.54	396
Above average nonlethal preference (≤−1 *SD*)	.00	1.00	.56	279

Note. Probabilities are only for respondents giving an affirmative response to between 4 and 6 of the items.

Income, however, did not significantly affect the overall odds of precautionary adoption, which we address in more detail in the conclusion. Our hypotheses about each measure of severity were confirmed in the results. Each unit increase in worry about victimization made the individual 16.3% more likely to obtain a precaution of any kind. Being married raised the odds of precautionary engagement by 31.3%, with children increasing those odds by a further 21.1% and each unit of greater attachment to others yielding 27% more.

Regarding personal attributes, both endorsement of violent conduct norms and political conservativism corresponded to respective increases of 21.2% and 12.7% in the likelihood of precautionary engagement. The effects of these attributes on engagement suggest that values incentivize precautions against victimization for reasons unrelated to perceptions about risk, which—whether they are accurate or inaccurate—are explanations the other measures account for. The nonsignificant coefficient for self-control suggests those with low self-control are not any less likely to employ precautions than those with more self-control.

Explaining Precautionary Preference (Lethal vs. Nonlethal)

We turn now to the latent variable measuring preference or the differential odds of adopting lethal versus nonlethal precautions. HLM output shows that it is highly unlikely that the variation in precautionary preference is because of chance ($\tau = 4.41$, $SD = .27$, $p < .0001$). Notice that the variance component of preference is greater than that of engagement (4.41 vs. 2.12), a sign that preference dominates engagement in precautionary decisions. The scale reliability for preference is only .59, an indication of the dependence of preference on the amount of overall precautionary activity and a reflection of the fact that many respondents' precautionary activity approached either .00 (no precautions) or 1.00 (all nine precautions), resulting in their providing only limited information about preferences.[12] A latent variable approach, therefore, is also needed to evaluate precautionary preference.

To better convey the magnitude of diversity in respondents' precautionary preferences, Table 2 reports the mixture of lethal and nonlethal precautions based on respondents' mean-centered preference score. Scores of at least 1 standard deviation above the mean indicate a respondent with an underlying tendency to prefer lethal precautions. Respondents with scores within a standard deviation of the population average have a mixture of precautions that correspond approximately to the precautionary difficulty base-rates, whereas those whose scores were below 1 standard deviation below the mean are comprised of people with an underlying aversion to lethality. This table only includes those who adopted between 4 and 6 precautions out of the nine.

All three groups have virtually identical rates of total precautionary usage (adopting between 54% and 56% of the precautions), but the lethal–nonlethal composition varied dramatically. The population-average group, as expected, endorsed nonlethal precautions at a much higher rate (87% of the nonlethal precautions) than they did lethal precautions (12% of the lethal precautions). By contrast, those respondents with an above-average preference for lethal precautions endorsed those (47%) at a rate that approached their rate of nonlethal precautions (61%). Note that although nonlethal precautions remain a significant part of the countermeasures adopted, those who favor lethal precautions effectively are substituting lethal in place of nonlethal alternatives. At the other extreme, respondents who had an above-average preference for *non*lethal precautions chose every nonlethal precaution (100%) and none of them had any lethal precautions (0%).

Returning now to Table 1, the "precautionary preference" model investigates possible explanations for the lethal/nonlethal composition of someone's precautionary choices. Recall that γ indicates, as a log-likelihood, how much *more probable* one type of precaution will be chosen over the other, per unit increase in the predictor. A significant positive coefficient favors lethal precautions, whereas a negative coefficient favors nonlethal types. The results show that while there is some similarity between predictors of precautionary engagement and preference, the differences are systematic. Preferences for lethal or nonlethal precautions appear to be driven much more noticeably by the demographic and personal attributes of the respondent. The demographic characteristics are most likely to adopt weapons than nonlethal precautions tended to be younger, male, White, and live in a rural-designated census tract.

Recall that we hypothesized that few of our proxy indicators for certainty or swiftness would affect whether someone preferred lethal precautions. This was what we found. We hypothesized that people who had a better opinion of police performance would be less attracted to weaponry because they could rely on the authorized wielders of lethal force to do their job, and indeed each unit improvement in those opinions resulted in lethal precautions being adopted at a 28.4% slower rate than nonlethal precautions. Neighborhood disorder, rather unexpectedly, affected preference; each unit increase in perceived incivilities in the area around one's home resulted in defensive weapon being 16.9% more likely to be chosen than nonlethal precautions. Our measures of severity revealed three variables associated with significant changes in precautionary preferences. Although one might believe that increasing severity of consequences would incentivize adopting lethal precautions over nonlethal, this was decidedly not what we found. Those who felt more anxious about victimization were 24.7% more likely to adopt *nonlethal* precautions than lethal precautions (see also Schreck et al., 2018). The presence of children in the household increased the attractiveness of nonlethal precautions by 26.3%, as did attachment to others, where increasing attachment corresponded with nonlethal precautions being 28.4% more likely to be chosen than lethal precautions.[13]

Across the board, the results for each of the personal attribute measures confirmed our hypotheses. Increasing adherence to violent conduct norms ($OR = 1.99$), greater political conservativism ($OR = 1.25$), and low self-control ($OR = 1.28$) all corresponded to a preference for lethal precautions. Recall that these effects are separate from observations and experiences associated with certainty of victimization, the potential ease of accessing and acquiring weapons, or the severity of victimization's effects—ruling out threat reactions as the underlying reason for preference. These patterns support our theory's view that for such individuals, lethal precautions are perceived as more gratifying.

Discussion and Conclusion

The Katzenbach Commission's 1967 report acknowledged the importance of police and courts but concluded that these institutions have only a limited capacity to prevent many crimes. Instead, the

key agents of crime prevention were the citizenry, arguably the one group that could be empowered to do so without posing an automatic threat to the values of a free society. Yet, decades later, policy and research continue to focus on treatment or deterrence programs where expense, errors, and compromises to civil liberties are unavoidable. The precautionary behavior of regular citizens, meanwhile, remains under-theorized (Berg & Schreck, 2022; Schreck, 2021). Without basic knowledge of why and how citizens employ precautions, policy has little to work with.

This study attempts to redress this shortcoming. The theory is straightforward. A good explanation of precautionary behavior must incorporate rationality, subjectivity, *and* constraint, which requires distinguishing three contributors acting independently and simultaneously upon the odds that someone will adopt a precaution. The first, "precautionary engagement," is the underlying tendency to adopt *any* precaution, which limits possible causes to factors common to *every* precaution. The entire point of precautions is to avoid costly future problems; engagement, therefore, depends on problem awareness and the ability to respond. We capture both with a heuristic inspired by classical deterrence theory. The second component, "precautionary preference," is when a desire for safety interacts with an underlying attraction to a distinctive quality found in a class of precautions, like lethality, and is caused by factors that have specific relevance to that quality. The final piece, "precautionary difficulty," refers to natural differences between each precaution affecting *everyone's* chances of acquiring them. The theory takes no position about which is most important except that all three are entangled, thus calling for a statistical and measurement approach designed to isolate each from the others. In this article, we use a bifactor multilevel IRT regression approach to accomplish that separation.

Our initial test of this approach uses a representative online opt-in YouGov panel of adults in the United States. Results revealed several key findings: First, there is highly significant variation throughout the population in both precautionary engagement and precautionary preference. A decision to adopt one precaution is associated with higher odds of adopting all the others irrespective of their potential for lethality, and lethal weapons are simply part of a comprehensive defense against crime. It is also definitively clear that many others adopt lethal precautions and ignore nonlethal alternatives (and vice versa).

Our second key finding is general support for the influence of certainty, swiftness, and severity on precautionary engagement; however, the results deserve a closer look. Two measures of "certainty of victimization"—perceived risk and prior victimization—increased engagement while perceptions of neighborhood disorder and police performance did not. These null findings could reflect other measures being mediators, for example, where perceived disorder determines perceived risk of victimization (Ferraro, 1995). Our hypotheses for "swiftness," that is, personal agency to affect risk, also revealed complexity. Personal efficacy definitively increased engagement; those who felt effective at avoiding victimization adopted more precautions overall independently of controls for context and constraint. Our hypothesis for income, however, proved an oversimplification. Our preliminary models, which used 12 precautionary items, showed income increased engagement; however, our *Q3* analysis of item-pair residuals flagged five items as duplicative. Since the items assume available money (either to acquire a car or a gun), our efforts to restore local independence resulted in income no longer affecting engagement. Income instead seems relevant to *specific* precautions and indirectly is capturing precautionary difficulty, that is, a specific precaution's cost. Our hypotheses about "severity," however, received consistent support; the odds of precautionary engagement increased with greater worry about victimization, attachment to others, as well as the presence of a partner or children in the home. That the results for our severity predictors were more impressive and consistent than was true of certainty accords with psychological research showing emotional arousal is an important driver in the urgency to act (Kaufman, 1999). This does not mean that certainty does not matter for precautionary engagement (Warr, 2000), but engagement appears more consistently dependent on having something tangible to lose.

Precautionary preference, however, was generally more influential than engagement in precautionary behavior, and our third key finding is definitive support for violent conduct norms, political conservativism, and low self-control being associated with a preference for lethality. Weapons appear to satisfy psychological or expressive needs in a way nonlethal alternatives cannot (e.g., endorsement of force as an acceptable means, alignment with political or cultural worldviews). Subjective personal desires, therefore, appear significant for shaping how individuals interpret decision-making constraints and which strategies they find acceptable or appealing, independent of situational assessments of danger.

With only one exception, we found little support for the idea that either context (like fear) or constraint created a special incentive to acquire weaponry. We hypothesized that perceptions of police performance would make lethal precautions attractive because of the collective security hypothesis—police failure implied the need to acquire lethal forms of self-help. This was what we found. In prior research (e.g., Schreck et al., 2018), perceptions of police performance had the opposite effect; however, opinions about the police can be conflated with political identity. After controlling for conservativism, our results supported the collective security hypothesis.

What of the other results that predicted preferences? We did not make predictions and can only venture preliminary speculation by eliminating possibilities. People who perceived neighborhood disorder tended to prefer lethal precautions, but the result was not impressive and is potentially an artifact of sample weighting. Moreover, there is no compelling mechanism that could explain why. The ability of the IRT model to separate engagement from preference, besides our inclusion of a range of predictors, rules out the most obvious explanations. If the effect proves real, it perhaps speaks to the presence of illicit markets that make weapon acquisition easier (Cook, 2018; Semenza et al., 2023). Rural residency also increased preferences for weaponry, but our controls allow us to rule out political conservativism and violent conduct norms as reasons. A plausible residual explanation, because it is not accounted for by any other variable, is that weapons are a practical response to physical isolation and the prospect of delayed law enforcement response to emergency (Luna, 2002).

The remaining results are interesting because they appear consistent with preferences emerging when lethal solutions to one problem (victimization) create an unacceptable set of new problems. Worry about victimization definitively increased precautionary engagement, lethal or nonlethal; however, the results in the preference model revealed a distinct process associated quite clearly with an aversion to lethal precautions. This suggests that worry about victimization is complex and is more than problem awareness, but to some extent is also caused by an underlying sensitivity to the prospect of harm generally (Schreck et al., 2025). Lethal precautions intrinsically are dangerous, and so perhaps people susceptible to worrying about harm find nonlethal precautions against victimization doubly appropriate. Attachment to others and the presence of children yielded identical results to worry, although more clearly so for attachment than children. Removing as possibilities explanations already covered by engagement and other predictors, one explanation remaining is that relationships create residual sensitivity to the effects one's choices have on others. Lethal precautions carry grave risks that others might not have consented to or lack the competence to manage (Cook, 1991; Wiebe, 2003). Yet, marriage did not achieve significance, and its effect direction moreover favored lethal precautions, indicating the need for further theory and research.

Turning to limitations, we remind readers that this study represents an initial test of a theory that organizes a complex variable, created from clues suggested in a small research literature. We deliberately simplified our hypotheses, focusing on main effects and generally assumed our heuristic for engagement (certainty, swiftness, severity) had little relevance for preference and attributes had little relevance for engagement. Variables, however, do not always measure one thing only, and future research should attempt to refine the key concepts, hypotheses, and measurements. We also left precautionary difficulty, a component that is clearly important for precautionary behavior, comparatively underdeveloped because explaining it would require a theory

organizing the many differences between precautions that affect adoption. There is much room for theoretical growth, but we believe that our distinguishing between engagement, preference, and difficulty provides enough of a reduction in empirical noise to signal a promising direction for a topic that is ripe for further attention.

Methodologically, our measurement of precautionary items could have benefited from additional research on the interrelationships between precautionary behaviors, with an eye toward improving measurement, scaling, or the detection of hidden dimensions. Currently, there are few examples of that kind of work (Madero-Hernandez et al., 2022). Furthermore, the design of precautionary items must anticipate local dependence, where notionally separate items in fact duplicate each other. Our decision to treat engagement, preference, and difficulty as independent and simultaneous influences on precautionary behavior reflects the limits of our cross-sectional data, and the fact that we do not propose a sequence of stages leading to precautionary behavior does not mean that it is none. For example, problem-recognition leading to precautionary engagement plausibly could initiate a sequence where preference determines the choice, and one could essentially retheorize our model through the lens of a Heckman selection model (Heckman, 1979). Alternatively, engagement could be informed first by perceptions of specific features in the environment, such as neighborhood disorder, mediated by global cognitive and emotive reactions to threat (Ferraro, 1995). Such an exploration, however, requires new data and would benefit from capturing situational decision-making directly as well as precise measures of swiftness, certainty, or severity as they apply in the moment of decision. Our data also were collected in the immediate aftermath of the COVID-19 pandemic, where firearm purchases in the United States increased dramatically (Miller et al., 2022) with some racial groups adopting them for reasons potentially dissimilar to others (Hoskins et al., 2025). Considering these constraints, our analysis should be interpreted as proof of concept demonstrating the framework's empirical promise and as a justification for further data collection and theoretical refinement.

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Notes

1. We do not assert that our adaptations or their associated measures have any resemblance to deterrence concepts as normally understood in criminology.
2. Findings here are mixed, possibly since political beliefs are conflated with attitudes about the police. See Madero-Hernandez, 2022; Schreck et al., 2018.
3. It might be helpful to revisit precautionary difficulty and distinguish it conceptually from swiftness. Swiftness is anything that gives *people* greater agency to choose; difficulty, however, captures how *specific choices* are not intrinsically equal (Felson & Clarke, 1998). Our theory is agnostic about the reason for each precaution's difficulty; the person only recognizes that precautions are unalike in cost, how convenient they are to use, their perceived effectiveness, and the effort to overcome logistical, administrative, or legal barriers to acquisition.
4. Another aspect of violent conduct norms is the connection between victimization and loss of status (Anderson, 1999; Stewart et al., 2006). To the extent that these norms overlap sensitivity to status, the

consequences of victimization would become subjectively more costly. In that sense, violent conduct norms overlap with severity, which suggests a certain amount of attraction to precautions generally.

5. Upon following the protocol for human subject research, the study was determined to be exempt from formal IRB review (personal communication). Note that we hereafter shorten the title of the data to *Reactions*.
6. To address the missing data and maximize statistical power, we used multiple imputation to create five data sets. We then averaged the predicted scores across the imputed data to replace missing information, which raised the sample size to the full 1,500 respondents. Replacement did not influence our findings.
7. Items included: "Someone will take something that belongs to me"; "Someone will break into my residence when I am not at home"; "Someone will force me to give up things while walking in public"; "Someone will punch, kick, slap, or choke me"; "Someone will threaten or harm me with a gun, knife, or some other weapon"; and "Someone will touch or harm me in an unwanted sexual manner."
8. Items included: "Violence is never justified under any circumstances"; "It is important for young men to have a reputation as someone who is tough"; "It is alright to beat up another person if they started the fight"; "It is alright to hit someone to get them to do what you want"; "Sometimes you have to be willing to fight in order to gain respect"; "Men who own guns are often looked up to and respected"; and "If you or a loved one is disrespected, violent retaliation is expected."
9. A two-parameter model (2pl) is often a better choice for optimizing model fit; however, it is unsuitable for our application. Accounting for item discrimination requires *adding* (rather than omitting) u_{io} to each item in Equation 4. Doing so, however, renders precautionary preference unmeasurable by changing its meaning to the contrast between the individual's mixture and the *same individual's* average mixture.
10. As indicated in the section describing the measures, our original specification included 12 precautionary items. Three of those items assumed the respondent has a car and had residuals with correlations exceeding the .2 threshold, suggesting that all three were measuring the same thing. Two other items, both relating to firearms, revealed the same issue. We elected to combine the problematic items, which reduced the original 12 items to the present nine. The Q3 test proved highly informative on substantive matters; see the conclusion.
11. The models reported here omit the sample weights because using them precludes the estimation of the variance components for engagement and preference. Nevertheless, we conducted tests (not reported here) that incorporated weights to check whether any substantive results might be affected. Omitting the weights does result in two variables that were borderline (e.g., $p = .06$) in the weighted models becoming significant, which we note in the results.
12. For more information about why the ability to measure precautionary preference is dependent on the number of precautions endorsed, see the discussion of specialization's entanglement with overall offense rate in Osgood and Schreck (2007, pp. 279, 285).
13. Disorder and children were the two measures that became significant in the unweighted models but were not significant in our weighted test models. See Footnote 12. The remainder of the substantive relationships were unchanged between models.

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Appendix

Table A1. Descriptive Statistics and Item Parameters for Precautionary Behavior.

Precautionary Items	% Yes	γ_{io} *sig.*	*SE*
Nonlethal Precautions			
Car security [REFERENCE]	.88	[1.98]***	.11
Lock home doors	.88	.05	.13
Pick up valuables in the yard	.62	−2.29***	.12
Check/lock windows	.73	−1.50***	.12
Leave lights on	.63	−2.11***	.12
Lethal Precautions			
Carries a knife	.18	−4.85***	.14
Carries gun/Keeps near bed	.24	−4.37***	.12
Keeps weapon near bed	.24	−4.35***	.13
Keeps gun in the house	.22	−4.40***	.12

Note. Lower values of γ_{io} reflect greater precautionary difficulty. See Equations 1 and 4. γ is the population average estimate, and *SE* is the robust standard error.
*** $p < .001$.