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Meanings and Measurement of Fear of Crime: A Multi-Method Study

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Abstract

Fear of crime affects far more people than crime itself. Fear of crime can motivate individual behavior, influence changes in neighborhood composition, and impact national policy. Research on fear of crime has been popular since the 1970s, but there are two major gaps in the literature: unclear definition and poor measurement. First, there are many competing conceptualizations and definitions of the construct but very few theoretical or empirical efforts to resolve these differences. Second, fear of crime is a complex construct, but most of the research has only measured a fraction of it. This multi-method study advanced fear of crime research by creating and testing a new measurement scale. The method had five major components: (1) in-depth interviews to understand how fear of crime is experienced followed by qualitative analysis to develop an initial pool of questionnaire items, (2) pretesting initial items with cognitive interviews and review by experts in the field, (3) exploratory factor analysis and confirmatory factor analysis, (4) assessment of convergent and divergent validity, and (5) initial empirical tests to examine predictors of fear of crime using the final questionnaire.

I used two emotions theories—the basic emotions perspective and the theory of constructed emotion—to inform analysis. Qualitative interviews (N = 29) revealed that people use words like “fear,” “worry,” and “concern” interchangeably. Qualitative analysis and factor analyses yielded a 10-item, one-factor scale. The scale had standardized factor loadings ranging from .715 to .888, an internal consistency of $\alpha = .945$, and was shown to have convergent and divergent validity. Quantitative analyses (N = 665) revealed that age, gender, victimization, and race predicted fear of crime, whereas belief in a just world and procedural justice did not.

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CHAPTER 1: INTRODUCTION

Violent crime in the United States peaked in the early 1980s and again in the early 1990s, but has steadily declined and stabilized since (Donohue, 2017; Fox & Zawitz, 2010). Since 1993, violent crime has decreased substantially. Crime has decreased by at least half, with estimates ranging from 49% according to official police data to 77% according to data from the National Crime Victimization Survey (Donohue, 2017). The decline in crime has been so drastic that the 2014 homicide rate—4.4 homicides per 100,000 people—was the lowest since 1957, which had a homicide rate of 4.0 per 100,000. (Donohue, 2017; Fox & Zawitz, 2010). The 2015 and 2016 homicide rates increased slightly to 4.9 and 5.3 homicides per 100,000 (Federal Bureau of Investigation [FBI], 2016), though overall, crime rates are still well within the overall decades-long downward trend.

An interesting caveat is that, while crime prevalence has decreased substantially over several decades, overall criminality has not (Donohue, 2017). In reaction to the increasing crime rates of the 1960s and 1970s, US lawmakers focused on anticrime measures, especially mass incarceration (Donohue, 2017). That is, crime rates are the lowest in decades, but incarceration rates are the highest in decades (Donohue, 2017). So, yes, crime rates have decreased to a rate comparable to 1957, but this would not be the case if the US still had 1957 crime policy.

As research on crime and victimization gained popularity, so too did research on perceptions of crime (Hale, 1996). Fear of crime has been a growing research concern since the 1970s. Much of the scientific interest in fear of crime concerns neighborhoods,

explanations for predictors of fear of crime, and the common paradoxical finding that those with the lowest risk of victimization tend to have the highest fear of crime.

The literature on fear of crime is vast, but there is little consensus on its definition (Collins, 2016; Hale, 1996; Henson & Reyns, 2015). Fear of crime has been conceptualized in a variety of ways, though most researchers recognize it as a psychological reaction to perceived crime or victimization threat. The scholarly disagreement over the meaning of fear of crime has led to a haphazard tradition of measurement. While research has often yielded consistent conclusions (such as the common finding that women have higher fear of crime than men), uncertainty in definition and measurement jeopardizes the meaningfulness of such conclusions. Studies of fear of crime have also tended to lack a theoretical foundation. Modern inquiry into fear of crime in the US requires consideration of crime trends, perceptions of crime, current political climate, psychological and criminological theory, and survey methodology.

Public Perceptions and Fear of Crime in the US

The crime–perception–fear nexus is complex. Before 2001, research findings were mixed as to whether public perceptions of crime were accurate or not. Some research found public perceptions to be inaccurate (Maguire & Pastore, 1995; Roberts & Stalans, 2000), whereas other research found a great deal of accuracy (Donohue, 2017; McCarthy, 2015; Warr, 1980, 1982). In 2001 and beyond, public perceptions of national crime prevalence were drastically out of proportion with actual crime prevalence—an effect presumably due to the lasting unease after 9/11. However, worry about specific crimes has remained largely unchanged since 2001. Most recently, the rhetoric and

misinformation spread by the White House has the potential to greatly influence public misperceptions of crime.

Before 2001

Between 1982 and 1993, only 1%–9% of Americans ranked violent crime as the most important problem facing the country (Maguire & Pastore, 1995). Shortly after, in August 1994, 52% of Americans ranked violent crime as the most important problem. Then, this figure decreased in 1995 and 1996 to 25%–27% (Maguire & Pastore, 1995). Though violent crime rates also peaked in the early 1990s, the overall relationship between violent crime and the percentage of Americans ranking violent crime as the most important problem facing the country is inconsistent. For example, the violent crime rate in 1996 resembled the rate in 1987 (Donohue, 2017; McCarthy, 2015), but 25% of Americans ranked crime as most important in 1996 compared to just 3% in 1987 (Maguire & Pastore, 1995).

Researchers tended to assume that public perceptions of crime were wildly inaccurate—especially due to media reporting (Hale, 1996; Roberts & Stalans, 2000; Warr, 1980)—but few studies have actually tested the accuracy of public perceptions of crime. McPherson (1978) asked Minneapolis residents to estimate the prevalence of six offenses in their neighborhoods. Residents accurately estimated both the extent of the crime problem and the probability of victimization for robbery, assault, and rape. Similarly, Warr (1980) asked residents of a southwestern US city to estimate the prevalence of 17 different offenses in their city and also found that public perceptions of crime prevalence were surprisingly accurate. Overall, people tended to overestimate the prevalence of rare offenses and underestimate the prevalence of common offenses, but

Warr (1980) noted that the distortion was not large and such a pattern is typical of human judgment in general. He also found that participants' rank order of specific offense prevalence was largely accurate. In Warr's extended (1982) study, instead of measuring perceived prevalence of crime, he had participants estimate the prevalence of criminality and the sex ratio of offenders by asking them, "What percentage of juveniles in Tucson do you think have ever committed (offense)?" and "For every 100 juvenile males who commit (offense), how many juvenile females commit (offense)?" (p. 190). Warr (1982) again found residents' perceptions of crime in their city to be remarkably accurate. He concluded by saying, ". . . it seems unlikely that the public can be 'fooled' about crime" (Warr, 1982, p. 199).

The General Social Survey (GSS), administered by the National Opinion Research Center (NORC), was among the first national surveys to examine fear of crime. Since 1973, the GSS has asked participants "Is there any area right around here—that is, within a mile—where you would be afraid to walk alone at night?" In 1982 and 1994, when crime rates were almost at their peak, 45% of Americans responded "yes"—the highest proportion in the survey's history (NORC, 2018). The trend of GSS responses follows overall crime trends in the US. Similar to Warr's (1980, 1982) findings on perceptions of crime prevalence, GSS results show that public perceptions of crime may be more accurate than previously thought.

Garofalo (1977) and McPherson (1973) both noted, however, that perceptions of *neighborhood* crime prevalence can differ substantially from perceptions of *national* crime prevalence. Garofalo (1977) found a moderate correlation of .48 and also that participants were twice as likely to believe that national crime was increasing, compared

to neighborhood crime. Hale (1996) also noted that people tend to overestimate crime in neighborhoods other than their own. This may mean that the accuracy of people's perceptions of crime depends on one's familiarity or involvement in an area.

2001–2016

Public beliefs about national crime have become strikingly less accurate since 2001 (Donohue, 2017; McCarthy, 2015). Until 2001, crime was decreasing and, according to Gallop polls, the percentage of Americans who believed crime was rising was decreasing in tandem (Donohue, 2017; McCarthy, 2015). After 2001, crime continued to decrease but the percentage of Americans believing that crime was rising immediately increased (Donohue, 2017; McCarthy, 2015). Since then, the percentage of Americans believing crime was rising has remained high and out of proportion with US crime rates (Donohue, 2017; McCarthy, 2015).

This consistent trend since 2001 suggests that 9/11 had a lasting impact on perceptions of crime in the US. In the months after 9/11, half (49.8%) of Americans were “very concerned” that there would be another terrorist attack on US soil in the near future (Huddy et al., 2003, p. 261). In 2014, the 20-year decline in crime continued and yet 63% of Americans thought crime was increasing (Donohue, 2017; McCarthy, 2015). In 2016, a Gallup poll found that 53% of Americans “worry a great deal” about crime (Davis, 2016). This was a 10-point increase from the year prior and the highest level since the months after 9/11 (62%).

In contrast, a 2017 Gallop poll shows that worry about specific crimes—including burglary, mugging, murder, sexual assault, and others—has largely been stagnant since 2001 with two notable exceptions (Newport, 2017). First, the proportion of participants

who responded that they either frequently or occasionally worry about being a victim of terrorism has decreased from 41% in 2001 to 30% in 2017. Second, worry about being the victim of a hate crime has increased steadily since 2001 from 16% to 20%.

Americans' worry about most crimes, however, has remained largely unchanged since 2001. This trend can likely be explained by researchers' (Garofalo, 1977; Hale, 1996; McPherson, 1973) suggestions that perceptions of neighborhood crime are more accurate than perceptions of national crime. As the nation prepared for the 2016 presidential election, national discourse surrounding crime grew less accurate, but it is unclear how this will affect perceptions and fear of crime moving forward.

2016 and Beyond

Current American politics have undoubtedly influenced recent public perceptions of crime—especially public *misperceptions*. Donald Trump began spreading false information about crime around the time he declared his candidacy for the Republican nomination for president. In November 2015, he retweeted a graphic titled “USA crime statistics” that included, among other incorrect statistics, the false claim that 81% of Whites are killed by Blacks (Farley, 2015). When confronted about spreading this misinformation by Fox News' Bill O'Reilly, Trump responded, “I retweeted somebody that was supposedly an expert. . . . am I gonna check every statistic?” (Farley, 2015, par. 22–24). The supposed expert source cited the nonexistent “Crime Statistics Bureau.” Such misinformation about crime began with Trump's primary campaign and continued through the election, inauguration, and beyond.

Weeks before the 2016 presidential election, Trump repeatedly announced on the campaign trail that the murder rate is historically high. On October 28th in Cedar Rapids, Iowa, Trump proclaimed,

You won't hear this from the media: We have the highest murder rate in this country in 45 years. You don't hear that from these people. They don't want to talk about it. The highest murder rate in the United States in 45 years. (Lee, 2016, par. 3)

In the two days that followed, he repeated the same false statistic in Phoenix and Las Vegas (Lee, 2016). Of course, as described above, the current homicide rate is actually the lowest in several decades. Some argue that misperceptions of crime and consequent fear are what won Trump the presidency. Misinformation and misperceptions of crime have continued long after the election, however.

Even after the 2016 election, the Trump Administration has relied on their campaign slogan “make American great *again*” (emphasis added) to communicate that the country is in disrepair. Similarly, they promise to *restore* public safety (White House, 2017b) and *restore* law and order (White House, 2017c), which again implies that Americans are currently unsafe. A White House webpage outlining law enforcement issues opens with:

One of the fundamental rights of every American is to live in a safe community. A Trump Administration will empower our law enforcement officers to do their jobs and keep our streets free of crime and violence. The Trump Administration will be a law and order administration. (White House, n.d., par. 1)

In Trump's inauguration speech he called for action against "the crime and gangs and drugs that have stolen too many lives and robbed our country of so much unrealized potential" (White House, 2017a, par. 24). He demanded, "This American carnage stops right here and stops right now" (par. 25). Shortly after Trump's inauguration, the White House published a "fact sheet" detailing America's crime "problem" (2017b, par. 1) and outlining their priority to "make American communities safe again" (par. 5). Former Attorney General Jeff Sessions also asserted that combating violent crime is "more important than ever" (White House, 2017b, par. 9). In July 2017—when referring to the slight increase in crime in 2015 and 2016—Sessions declared ". . . this is not a blip; it's not an aberration" (Montemayor, 2017, par. 4). Of course, as described above, the increase in crime in 2015 and 2016 was an aberration.

To stymie crime, the Trump Administration calls for stricter law enforcement, more respect for police officers, more aggressive policing, upholding Second Amendment rights, deporting undocumented immigrants, and building a border wall between the US and Mexico (White House, n.d.). The Trump Administration's rhetoric and priorities in the 2016 election and beyond have entered the US into a new era of misinformation—especially about crime.

Unexpectedly, however, a 2017 Gallup poll revealed that only 30% of Americans feared walking alone at night in their neighborhood, which tied the 52-year low (Newport, 2017). The last time this figure was as low as 30% was 2001 in the months just after 9/11. Comparing the trends in crime, perceptions of crime, and fear of crime reveals three things. First, perceptions of crime do not necessarily mirror crime rates. Second, fear of crime does not necessarily mirror crime or perceptions of crime. Finally,

perceptions of national crime and perceptions of neighborhood crime are not necessarily related.

Effects of Fear of Crime in the US

Despite the unprecedented nature of the current American political climate, fear of crime is not a new problem. Fear of crime became a popular topic of study after early research revealed that fear of crime affects far more people than crime itself (Fattah & Sacco, 1989). As Hale (1996) put it, “Survey after survey has found many more people afraid than are victimised” (p. 106). Early criminologists recognized the negative consequences of crime but did not consider the possible consequences of *fear* of crime (Warr, 2000). Fear of crime has important effects to consider.

At the individual level, fear of crime can influence a variety of outcomes including behavior, mental health, and physical health. When people fear crime, they often engage in target hardening, which refers to behaviors that reduce one’s suitability as a crime target (Hollis et al., 2013). In other words, target hardening refers to the things people do to reduce their own chances of victimization. This can include behaviors such as locking doors, carrying pepper spray, buying a gun, or not leaving the house (Figgie, 1980). Fear of crime can also worsen health and well-being (Ross & Mirowsky, 2001; Stafford et al., 2007).

Fear of crime has been found to be associated with anxiety, depression (Stafford et al., 2007), poor sleep quality (Hill et al., 2016), and poor physical health (Ross & Mirowsky, 2001; Stafford et al., 2007). Stafford and colleagues (2007) found that those with high fear of crime had almost double the odds of depression. Ross and Mirowsky (2001) found that fear of crime was associated with poorer physical health, including

more limited physical functioning and more chronic health conditions. Stafford and colleagues (2007) attributed the fear–depression association to curtailed social and physical activities, whereas Ross and Mirowsky (2001) suggested that physical activity does not explain fear of crime’s effect on mental health because residents of higher-crime neighborhoods actually walk more than those in lower-crime neighborhoods. Hill and colleagues (2016) analyzed global longitudinal data and found that low perceived neighborhood safety is also associated with poor sleep quality. Similarly, Etopio and colleagues (2019) found that low perceived safety is associated with psychological distress and sleep disturbances. It is possible that fear of crime worsens sleep quality and mental health due to hypervigilance in avoiding victimization. Overall, fear of crime affects people’s lives and can reduce quality of life via changes in behavior, health, and well-being.

At the neighborhood level, fear of crime can influence cyclical changes in neighborhood population structure. In the mid-twentieth century, in the aftermath of state-sanctioned housing discrimination, many predominantly White neighborhoods experienced an “invasion” of non-Whites (Bursik & Webb, 1982, p. 26; Skogan, 1986, p. 208). During this time of such rapid compositional change, there was a “white flight” (Sampson, 2012, p. 106), whereby Whites would leave their neighborhood because they feared that new Black residents would increase crime and deteriorate the neighborhood. When Whites left neighborhoods, there was also a disinvestment of resources in those areas (Sampson, 2012). Then, with fewer resources, the neighborhoods *would* start to deteriorate, leaving only those that could not afford to move. In these newly

impoverished neighborhoods, crime flourished (Skogan, 1986). In this way, fear of crime can affect neighborhood population changes and can actually increase crime.

Lastly, at the national level, American perceptions of crime, and the rhetoric surrounding it, are a growing influence on national policy. In public discourse, crime is often attributed to immigrants despite no evidence for this association (Ousey & Kubrin, 2018; Sampson, 2008). In fact, US neighborhoods with high proportions of first-generation immigrants actually have lower crime rates (Sampson, 2008). The White House has prioritized combatting illegal immigration to fight crime (White House, n.d.). In September 2018, days before Hurricane Florence would hit the Carolinas, the Department of Homeland Security diverted \$10 million away from the Federal Emergency Management Agency (FEMA) to Immigration and Customs Enforcement (ICE) to fund immigration detention centers (Nixon, 2018).

Fear of crime can have a profound effect on resource allocation at the individual, neighborhood, and national levels. For individuals, fear of crime can encourage people to spend money and energy to avoid victimization. For neighborhoods, fear of crime can discourage governments and corporations from investing in poor neighborhoods (Skogan, 1986). For the nation, fear of crime can shift priorities toward fighting crime and alleviating fear, sometimes at the expense of other government responsibilities.

Problems with Fear of Crime Research

Fear of crime undoubtedly deserves research attention, but the field suffers three fundamental problems: unclear definition, poor measurement, and a lack of qualitative inquiry. First, there is little consensus on the definition of fear of crime (Collins, 2016; Henson & Reynolds, 2015). Definitions of fear of crime tend to vary from study to study—

and often arbitrarily. There are many competing definitions of fear of crime yet few research efforts to resolve these differences. There has been little theoretical or empirical effort dedicated to conceptualizing the construct (Henson & Reynolds, 2015). Second, the disagreement over the meaning of fear of crime has led to a haphazard tradition of measurement. Poor construct validity is common in the literature. Most research on fear of crime has not accurately measured the construct. Uncertainty in definition and measurement jeopardizes the meaningfulness of most fear of crime research. Third, fear of crime research also tends to lack qualitative inquiry and efforts to build theory. Within the small body of qualitative research on fear of crime, no studies have attempted to uncover the subjective experience of fear of crime and no studies have used qualitative accounts to develop a self-report measure. The current study addressed each of these problems.

CHAPTER 2: LITERATURE REVIEW

Disparities in Fear of Crime

Many studies have found disparities in fear of crime. At the individual level, women, non-Whites, crime victims, and the poor tend to have higher levels of fear of crime (Collins, 2016; Hale, 1996). At the neighborhood level, neighborhoods with crime and disorder are associated with higher fear of crime, whereas neighborhoods with collective efficacy are associated with lower fear of crime (Collins, 2016). Interestingly, Collins' (2016) meta-analysis of 114 studies revealed that the gap between the most and least fearful was the smallest in studies conducted in the US. She concluded that Americans have a higher baseline level of fear of crime than in other countries, possibly due to an American culture of fear.

Gender and the Risk–Fear Paradox

Gender is consistently among the strongest predictors of fear of crime (Collins, 2016; Hale, 1996). Collins' (2016) meta-analysis revealed women are twice as likely as men to report being fearful of crime. Another closely related finding regarding gender differences in fear of crime is the risk–fear paradox. This refers to the common paradoxical result that those with the lowest risk of victimization tend to have the highest levels of fear and vice versa (Bursik & Grasmick, 1993; Ferraro, 1995; Hale, 1996). Research has consistently found paradoxical differences in fear of crime based on gender. Men are more likely to be victims of crime, but women are more likely to fear crime (Bursik & Grasmick, 1993; Ferraro, 1995; Hale, 1996). There are three possible reasons why women have greater fear of crime despite lower victimization risk.

First, it is possible that, although women have a lower objective risk of victimization, they may have a higher *perceived* risk. In other words, it could be that women perceive a greater likelihood of victimization than men, which then accounts for their higher levels of fear. Second, women may be more sensitive to risk of victimization than men. That is, equal levels of perceived risk may yield different levels of fear in men and women. Indeed, Warr (1984) found that women rated potential victimization as more serious than men did. He explained that even with objective risk held equal, women are more sensitive to that risk than men. In other words, women tend to anticipate more severe consequences of victimization than men do, which explains women's greater levels of fear (Hale, 1996; Warr, 1984, 1987).

Third, the gender difference in fear of crime can also be explained by women's fear of rape. That is, women's fear of crime is largely driven by their fear of rape—a

crime that is much more likely to affect women (Davies, 2008; Ferraro, 1995; Warr, 1985). It makes sense that women fear rape more than men do, but women fear other types of crime more also. The “shadow of sexual assault” refers to the fear that any criminal victimization could also result in rape (Ferraro, 1995; Hilinski, 2011). In other words, “While males fear having property stolen via burglary, women fear being sexually victimized by a burglar” (Schafer et al., 2006, p. 286). For this reason, women’s fear of rape elevates their fear of nonsexual crimes as well (Ferraro, 1995; Warr, 1984, 1985; Hilinski, 2011). Quantitative evidence consistently supports the shadow of sexual assault. The correlation between fear of rape and fear of property crimes is much higher for women than men (Ferraro, 1995; Hilinski, 2011). Ferraro (1995) found that adding fear of rape to his model explained an additional 14% of the variance in fear of nonsexual crime. Further, adding fear of rape as a predictor erased the gender difference in fear. That is, after controlling for fear of rape, men and women were found to fear nonsexual crime equally (Ferraro, 1995). Overall, women’s fear of rape is a major statistical predictor of their fear of nonsexual crime.

Age

Early research suggested that, like women, older adults have higher fear of crime than younger people (Fattah & Sacco, 1989; Hale, 1996; LaGrange & Ferraro, 1989). Research on age and fear of crime is not as consistent as the research on gender, however. Results are mixed as to whether older people experience more fear of crime (Fattah & Sacco, 1989).

Many studies have found that older adults have high fear of crime. For example, Oh and Kim (2009) found higher fear of crime in participants over 65 compared to

younger participants. However, much of the research that found an age effect has found mixed results or weak effects. Warr (1984) found higher fear of crime in participants over 65 for eight of 15 crimes, but for the other seven crimes, participants aged 51–60 reported the highest fear. Clemente and Klieman (1977) found that older adults had higher fear of crime, but the effect of age was weaker than they expected. Yin (1982) also found that the impact of fear of crime on the elderly was less than expected. Killias and Clerici (2000) found that age predicted crime in only two of four models, in which age was not among the strongest predictors.

Studies that have found an effect of age support the risk–fear paradox (Warr, 1984; Yin, 1980). That is, compared with younger people, older people are less likely to be victimized yet more likely to fear crime (Hale, 1996). The possible explanations for elevated fear in older people are similar to the possible explanations for elevated fear in women.

First, it is possible that, like women, older people estimate a greater risk of victimization than younger people. Perhaps older people feel more personally vulnerable to victimization because they perceive themselves to be easy targets. A decreased capacity to physically defend against an attacker, accompanied by decreased hearing and vision, may make older people feel vulnerable and therefore more fearful. Second, perhaps older people are more sensitive to perceived risk (Hale, 1996; Warr, 1984). Warr (1984) found that participants over 65 were more likely to be afraid of being approached by a beggar. His explanation for this was that panhandling and more serious crimes are “perceptually contemporaneous” offenses (p. 695). In other words, older people may be more likely to perceive that panhandling could be accompanied by more serious crimes

(e.g., assault, robbery). This reasoning mirrors the shadow of sexual assault hypothesis described above. Though the effect of age may operate through a similar mechanism as gender, the effect of age on fear of crime is not as strong or as consistent as the effect of gender (Collins, 2016; Hale, 1996; Killias & Clerici, 2000).

Some research finds that age effects are confounded by other variables. Killias and Clerici (2000) found that the effect of age disappeared when accounting for physical vulnerability, whereas the effect of gender remained significant. LaGrange and Ferraro (1989) found different effects of age on fear of crime depending on the measurement, which underscores the importance of the current research. They found an effect of age only when fear of crime was measured by the National Crime Survey—two other measures of fear of crime did not yield the same result. They concluded that the extent of the age effect has been overestimated due to measurement issues. More recently, Collins' (2016) meta-analysis revealed that age differences in fear of crime were largely impacted by differences in study methodology. Quality research on fear of crime depends on precise and standard measurement, which the field currently lacks.

Some research also finds that younger people are actually more fearful. Ferraro (1995) found that younger people were more afraid of crime than older people, with one exception: older women had elevated levels of fear of being approached by a panhandler. Jackson (2009) found that younger people worried more about crime than older people. A European study also found that younger adults tended to be more fearful and concluded that there is not a developmental change in fear over time (Kappe et al., 2013). Yin (1982) suggested that age differences in fear of crime may be exaggerated in common

discourse. Similarly, Fattah and Sacco (1989) also suggested that perhaps the age–fear relationship is more rooted in stereotypes than reality.

Socioeconomic Status and Race

Research on socioeconomic status (SES) and racial differences in fear of crime is less frequent than research on gender and age differences, but it has yielded some consistent results. Skogan and Maxfield (1981) found that the poor are more likely to fear crime. One likely reason is that lower SES individuals are more likely to live in neighborhoods that have higher rates of both crime and disorder (see *Neighborhoods* below). Fattah and Sacco (1989) also reason that poor people cannot afford resources to facilitate safety (e.g., a burglar alarm).

There is also an important relationship between SES and race, such that a disproportionate number of racial minorities live in impoverished neighborhoods in which crime is often concentrated. Racial/ethnic minorities tend to fear crime more than Whites (Collins, 2016; Fox et al., 2009; Hale, 1996). One possible explanation for racial differences in fear of crime is that, similar to the SES–fear relationship, minorities are more likely to live in high-crime neighborhoods. Second, Hale (1996) also reasoned that racism may influence the race–fear relationship. Minorities may fear crime more due to the additional perceived risk of hate crimes (Pain, 2000). Plus, minorities tend to have lower trust in the police (Sunshine & Tyler, 2003), so perhaps they feel the police will not protect them from potential crime. However, the relationship between race and fear of crime may differ by race.

Swatt and colleagues (2013) found that Hispanics feared crime most, followed by Whites and then by Blacks. While Collins' (2016) meta-analysis did find differences

between Whites and non-Whites, there were no differences between different groups of non-Whites (i.e., Blacks and Hispanics). Interestingly, she also found that the difference in fear of crime between Whites and non-Whites was the highest in studies conducted in the US.

Previous Victimization

Agnew (1985) noted that research tends to find a weak relationship between victimization and fear of crime, though the results are mixed (Ferguson & Mindel, 2007; Hale, 1996). Some research has found a straight-forward positive relationship between victimization and fear of crime. Collins' (2016) meta-analysis found victimization was among the strongest predictors of fear of crime, second only to gender. Skogan (1987) found that victimization impacted fear of crime, especially property victimization. Yuan and McNeeley (2017) found that victims of both violent and property crime had higher levels of fear of crime. Other research, however, has uncovered a more complicated relationship between victimization and fear of crime.

Dull and Wint (1997) studied college students and measured changes in their fear of crime from their first to fourth year of study. They found that victims' fear of property crime increased and that non-victims' fear of personal crime increased. Interestingly, Fox and colleagues (2009) found that daytime fear of crime was associated with several kinds of victimization, whereas nighttime fear of crime was only associated with sexual assault victimization. They also found that theft and stalking led to greater fear of crime, whereas sexual assault led to less fear of crime. Hale noted, "Being criminally victimised may make one more wary and more cautious, but whether it makes one more fearful is still an open question" (1996, p. 104).

The effect of victimization on fear of crime may depend on the victim's thoughts after the crime (Agnew, 1985; Hale, 1996). Janoff-Bulman (1989) posited that victims face a "cognitive dilemma" (p. 121) regarding the discrepancy between one's optimistic assumptions and the victimization. That is, victims must decide how to handle a traumatic event that contradicts their optimistic views on the world. Two psychological theories explain how victims make sense of their misfortune: shattered assumptions theory (SAT; Janoff-Bulman, 1989) and just world theory (JWT; Lerner, 1980).

Shattered assumptions theory posits that a traumatic event can shatter one's optimistic assumptions about the world and the self (Janoff-Bulman, 1989). There are three main categories of optimistic assumptions: benevolence of the world, meaningfulness of the world, and worthiness of the self (Janoff-Bulman, 1989). First, the assumption that the world is benevolent involves a perceived base rate of good and bad behavior. When one trusts that others are benevolent, they see the world as a benevolent place and assume that misfortune is infrequent (Janoff-Bulman, 1989). Following this logic, a victim may perceive the crime prevalence to be higher than originally estimated, which would likely increase their fear of crime. Second, meaningfulness of the world refers to one's perception of the world as controllable or random. After a crime, a victim is likely to perceive negative events as happening randomly and out of one's control. This, too, should increase fear of crime. Lastly, one's self-worth, including the perception of oneself as lucky or unlucky, may diminish after a trauma. A crime, especially one perceived as occurring randomly, would likely result in the perception of oneself as unlucky, which would likely increase fear of crime. SAT has not been used explicitly for

testing the relationship between criminal victimization and fear of crime, but it appears to be a promising theoretical direction.

SAT and JWT essentially predict opposite outcomes. SAT predicts that victimization will diminish one's optimistic assumptions about the world, but JWT predicts that victimization may have no impact on optimistic assumptions. The major assumption of JWT is that individuals strive to believe in a just world—a world in which people get what they deserve and deserve what they get. Lerner (1980) calls this “a fundamental delusion” (title page). “People *want to* and *have to* believe they live in a just world so that they can go about their daily lives with a sense of trust, hope, and confidence in their future” (p. 14, emphases added). After misfortune, the drive to maintain belief in a just world (BJW) often leads to victim blame (Hafer & Begue, 2005; Hafer & Rubel, 2015; Lerner, 1980; Lerner & Simmons, 1966). In an effort to maintain BJW, people sometimes self-blame following their own misfortune. According to JWT, when someone is victimized, they may attribute their victimization to carelessness or deservingness. Doing so allows the victim to maintain BJW and enjoy the mental peace it inspires. To the victim, it may be less distressing to blame oneself than to fathom that bad things happen randomly. Since the victim perceives the crime as the result of one's own mistakes, one's attempt to fix those mistakes should leave fear of crime unchanged. To summarize, JWT predicts that one's optimistic assumptions about the world are powerful enough that they may dictate one's perceptions of their own victimization.

Like JWT, Agnew (1985) argued that victims sometimes use “neutralization techniques” (p. 224) to minimize psychological harm after victimization. Neutralization techniques include denial of injury, denial of vulnerability, acceptance of responsibility,

BJW, and appeal to higher loyalties. Denial of injury refers to a victim's reframing of the crime as minimally harmful, which could entail dismissing the magnitude of the injury or emphasizing positive outcomes. For example, an assault victim may think, "I was only bruised" and "it made me stronger." Denial of vulnerability occurs when a victim claims to be less vulnerable after the victimization because they learned how to avoid future victimization. Acceptance of responsibility is similar to the self-blame explanation proposed by JWT. Agnew's conceptualization of BJW reflects Lerner's (1980) concept of "ultimate justice"—in this case, it is the belief that the perpetrator will eventually be punished. Finally, appealing to higher loyalties alleviates psychological turmoil for victims who reframe their own victimization as necessary for preventing or minimizing someone else's victimization (e.g., being assaulted when retrieving someone else's stolen purse). A victim's use of these neutralization techniques should prevent increases in fear of crime.

The relationship between victimization and fear of crime is not as straightforward as common sense would suggest. It is likely that the victim's beliefs about the crime may impact their subsequent fear of crime. There are other possible moderators as well. Fear of crime likely depends on how recent a victimization was. Russo and Roccato (2010) conducted a longitudinal study in Italy and found that recent victimization was the strongest predictor of fear of crime, whereas victimization 12 months or more before the study did not predict fear of crime. In addition, the effect of victimization on fear of crime may depend on demographic variables. Sironi and Bonazzi (2016) found that women experienced a greater decrease in perceived safety after victimization than men.

Indirect victimization—crimes committed against someone else, such as a friend—may also increase fear of crime. Covington and Taylor (1991) found that indirect victimization had both neighborhood- and individual-level effects on fear of crime. At both levels, indirect victimization was associated with higher fear of crime. Yuan and McNeeley (2017) found that indirect victimization predicted both fear of violence and fear of burglary, but they measured indirect victimization as the frequency of discussing crime problems with neighbors, which is an imperfect proxy. Similar to Russo and Roccatò's (2010) findings on the effects of victimization, there could be differential effects of indirect victimization on fear of crime, depending on how recent the crime was. Grubb and Bouffard (2015) found that childhood indirect victimization did not predict adult fear of crime.

Overall, the effects of direct and indirect victimization on fear of crime are complicated and deserve more research attention. Victimization experience alone is not enough to account for variation in fear of crime. Individual characteristics and victims' cognitive processing after a crime may mediate and/or moderate the effect of victimization on fear of crime. Of course, in addition to individual traits and victimization experiences, neighborhoods also have an impact on individuals' fear of crime.

Neighborhoods

Fear of crime is not only a product of individual characteristics but also neighborhood effects (Pearson et al., 2015). Skogan and Maxfield (1981) argued that individual characteristics are less important than neighborhood characteristics in predicting fear of crime. Collins' (2016) meta-analysis revealed neighborhood crime and neighborhood disorder are both associated with higher levels of fear of crime, whereas

high collective efficacy is associated with lower fear of crime.

Crime

Perhaps the most obvious neighborhood-level predictor of fear of crime is actual crime. People who live in neighborhoods with higher crime rates tend to have higher fear of crime, though the relationship is not so straight-forward (Skogan & Maxfield, 1981). Garofalo (1979) found that crime and fear of crime had a moderate to strong correlation across 26 US cities. The correlation between fear of crime and NCS rates was .40, but the correlation between fear of crime and Uniform Crime Reporting (UCR) rates was .66. More recently, Zhao, Lawton, and Longmire (2015) found that neighborhood crimes within 0.1 miles from one's residence were a predictor of fear of crime. It is also possible, however, that those living in high-crime neighborhoods become desensitized to it and thus don't experience greater fear.

Disorder

There is also a positive relationship between neighborhood disorder (e.g., graffiti, broken windows, abandoned buildings) and fear of crime. Skogan and Maxfield (1981) found a correlation of .66 between disorder and fear of crime. Gibson and colleagues (2002) also found a significant association. Similarly, Skogan and Maxfield (1981) found a correlation of .56 between fear of crime and the perception that the neighborhood is "getting worse" (p. 113). More recently, Swatt and colleagues (2013) found a correlation of .32 across four Miami neighborhoods. Ferguson and Mindel (2007) found that perceived disorder predicted both perceived risk of victimization and fear of crime. Yuan and McNeeley (2017) also found that residents of disordered neighborhoods had higher levels of both fear of violence and fear of burglary. Franklin and colleagues (2008) found

that perceived disorder was among the strongest predictors of fear of crime, accounting for 36% of the variance.

Broken windows theory (Wilson & Kelling, 1982) may explain the mechanism behind the relationship between neighborhood disorder and residents' fear of crime. They theorized that disorder communicates that crime is tolerated and that there is inadequate social control in a neighborhood. Because of this, criminals learn that crime goes unpunished and residents withdraw from their neighborhood, social control decreases, and the area is then more vulnerable to crime (Wilson & Kelling, 1982). In other words, broken windows theory posits that disorder starts a chain reaction that affects individual resident behavior and neighborhood social control, which then leads to crime. Subsequent research has largely refuted the theory's proposed disorder–crime relationship (Sampson, 2012), but it may explain the disorder–fear relationship. Disorder can lead to residents' belief that the neighborhood is vulnerable to crime, which could then increase fear of crime.

Collective Efficacy

In addition to crime and disorder, neighborhood collective efficacy is also related to fear of crime. Sampson and colleagues (1997) developed collective efficacy theory to explain how neighborhoods prevent crime. The major position of the theory is that neighborhoods with high collective efficacy are able to exert social control to deter crime (Sampson et al., 1997; Sampson, 2012, 2014). They defined collective efficacy as “the linkage of mutual trust and the willingness to intervene for the common good” (Sampson et al., 1997, p. 919). In other words, collective efficacy is the combination of social cohesion and shared expectations for social control (Sampson, 2012, p. 152; Sampson,

2014, p. 129). Consistently, collective efficacy is found to be a major neighborhood-level crime deterrent and can even prevent heatwave deaths and teenage pregnancy (Sampson, 2012). Overall, when neighbors are willing to look out for each other, they can benefit neighborhood well-being. Recent evidence suggests this mechanism also helps mitigate fear of crime.

Swatt and colleagues (2013) only found a modest correlation of $-.169$ between collective efficacy and fear of crime, but other research has found more robust results. Gibson and colleagues (2002) found that individual perceptions of collective efficacy were associated with lower fear of crime across three cities, even after controlling for individual characteristics. Yuan and McNeeley (2017) found that perceptions of collective efficacy were associated with lower fear of violence and lower fear of burglary in Seattle neighborhoods. Collins' (2016) meta-analysis found that collective efficacy has a strong negative effect on fear of crime. The reason collective efficacy may lower fear of crime is that if a neighborhood resident believes their neighbors are looking out for them, they likely feel more at ease because they (1) are not concerned about being victimized by their neighbors, (2) expect their neighbors to help prevent crime from happening, and (3) expect their neighbors to intervene if a crime were to happen.

What is Fear of Crime?

Research on fear of crime remains popular, but it is still not clear what the construct “fear of crime” actually is. Early research on fear of crime tended to define it haphazardly. As Holloway and Jefferson (2000) put it, “In research into the fear of crime there have been far more attempts to measure the fear of crime than to ask what it is that is being measured” (p. 7).

Today, within the large and growing body of research on fear of crime, researchers debate its definition. Defining fear of crime is a theoretical issue, but efforts to define it tend to be atheoretical (Holloway & Jefferson, 2000). Clark (2003) reasons that researchers cannot understand fear of crime without understanding its major components: fear and crime. Since fear of crime tends to be studied by criminologists, research tends to focus more on crime than fear. More specifically, research on fear of crime tends to underemphasize the psychological and emotional properties of fear. I will first introduce the criminological debate on defining fear of crime and then I will apply emotions theories to the definition of fear of crime.

Possible Types of Fear of Crime

Conceptualizing and defining fear of crime is at least as complicated as conceptualizing and defining fear. As more researchers recognize inconsistencies in its definition, three major debates have emerged regarding how to define fear of crime. First, scholars debate whether fear of crime is situational, dispositional, or both (Gabriel & Greve, 2003). Some suggest that fear of crime is a discrete emotional experience, whereas others suggest that it could be a global trait somewhat like a personality characteristic (Fattah & Sacco, 1989; Hale, 1996). Second, scholars debate whether fear of crime is concrete, abstract, or both (Figgie, 1980; Gouseti & Jackson, 2016; Hale, 1996). Fear of crime could refer to specific fears of victimization or to a more general sense of unease, possibly depending on one's psychological distance from crime (Gouseti & Jackson, 2016). Third, scholars debate whether fear of crime can be irrational or not. Different theoretical and disciplinary approaches to studying fear of crime suggest it may be any or all of these.

Situational Fear of Crime

Researchers tend to agree that fear of crime is an emotional reaction in response to perceived threat of criminal victimization. Leading fear of crime scholars insist it should be defined as an emotional response to one's interpretation of crime-related stimuli (Ferraro, 1995; Garofalo, 1981; Hale, 1996; Hinkle, 2015). Some of the most prominent fear of crime researchers have used this definition in their studies.

Garofalo (1981) defined fear of crime as “an emotional reaction characterized by a sense of danger and anxiety . . . produced by the threat of *physical harm*” (p. 840, emphasis in original). Similarly, Ferraro (1995) defined fear of crime as “an emotional response of dread or anxiety to crime or symbols that a person associates with crime” (p. 4). These definitions, although seemingly straightforward, are imprecise. Garofalo's (1981) definition mentions “a sense of danger and anxiety” (p. 840), but is that the same as fear? Further, he specifies “physical harm” (p. 840), but certainly people can fear other types of harm from crime (e.g., emotional, financial). Ferraro's (1995) definition mentions “dread or anxiety” (p. 4), but again, are those the same as fear?

Further, these definitions assume that fear of crime can only be felt in the presence of a threat. But, could people experience fear of crime in the absence of an impending threat? If the answer is no, then fear of crime should be defined as emotional and state-like. If the answer is yes, perhaps “fear of crime” encompasses more than just a discrete emotional state.

Dispositional Fear of Crime

Though fear of crime is certainly elicited by threatening criminal stimuli, it is possible that fear of crime is also trait-like (Fattah & Sacco, 1989; Gabriel & Greve,

2003). This approach posits that some individuals have a relatively stable dispositional tendency to fear crime. In everyday life, it is understood that some people are more anxious than others. Perhaps fear of crime works similarly—some people may have a personality that fosters higher levels of fear of crime on a regular basis.

Fear of crime as a trait can also be subject to change over time (Gabriel & Greve, 2003). Consistent with the situational approach, from moment to moment, criminal stimuli can increase fear of crime and perceived safety can decrease it. However, life circumstances can change one's dispositional fear of crime in a developmental way (Gabriel & Greve, 2003). For example, living in a high-crime neighborhood could have a lasting impact on one's tendency to fear (or not fear) crime even after moving to a different neighborhood. Or, someone's tendency to fear crime could change after being victimized. The dispositional approach has theoretical merit when fear of crime is reconceptualized in ways different from the typical criminological study. Perhaps conceptualizing fear of crime psychologically could inspire an empirical breakthrough.

Concrete vs. Formless Fear of Crime

Figgie (1980) described the distinction between concrete and formless fear: “concrete fear results from *distinct visions of violence* that an individual carries with him at all times, while formless fear concerns *a vague sense of being unsafe* in one's everyday environment” (p. 49, emphases in original). The two types are not mutually exclusive, so individuals can report high levels of both concrete and formless fear. Figgie identified important predictors of concrete and formless fear of crime, but it wasn't until recently that psychological theory has been applied to explain these relationships. Gouseti and

Jackson (2016) applied Trope and Liberman's (2010) construal-level theory of psychological distance (CLT) to fear of crime.

CLT broadly posits that the degree of psychological distance between a perceiver and an object will influence perceptions of that object (Trope & Liberman, 2010). According to CLT, individuals experience only the "here and now" but must transcend this reference point when thinking about objects outside of one's immediate context. Objects that are not in one's immediate context are either experienced as psychologically proximal or distant (Trope & Liberman, 2010). There are four dimensions on which one could perceive an object: hypotheticality, time, space, and social distance. The degree of psychological distance is posited to influence one's mental construals of the object in question. Theoretically, those who perceive objects as psychologically proximal make low-level construals and experience the object in a concrete way, whereas those who perceive objects as psychologically distal make high-level construals and experience the object in an abstract way.

CLT can help explain different types of fear of crime. If crime is perceived as distant then fear of crime should be abstract (i.e., formless), but if crime is perceived as proximal then fear of crime should be concrete (Gouseti & Jackson, 2016). Theoretically, different types of individuals should be more likely to experience crime as distal or proximal. Given the four dimensions of distance—hypotheticality, time, space, and social distance—individuals who perceive crime as real (i.e., not hypothetical), happening recently, close by, and to people like oneself will be more likely to perceive crime as proximal. Therefore, those who live in high-crime neighborhoods should experience greater concrete fear of crime because crime is more psychologically proximal on all four

dimensions. In contrast, those who perceive crime as hypothetical, happening in another time, in another area, and to people different from oneself should be more likely to experience formless, as opposed to concrete, fear of crime. This application of CLT advances the literature on fear of crime, which has largely lacked theory for decades.

Rational vs. Irrational Fear of Crime

The risk–fear paradox (see *Gender and the Risk–Fear Paradox*) suggests that fear of crime can be irrational. People with the lowest risk of victimization tend to have the highest levels of fear, so it is reasonable to assume that many people’s fear of crime, whether low or high, is not rational. Much of the scholarly discussion on the risk–fear paradox focuses on women’s unwarranted high levels of fear. However, feminist criminologists have challenged this narrative by suggesting that perhaps women’s fear is not irrationally high, but instead men’s fear is irrationally low (Hale, 1996). Lupton and Tulloch (1999) argued, “Women’s fears should not, therefore, be discounted as ‘irrational’ but rather be viewed as rational responses to lived situations they find frightening” (p. 509).

It is possible that irrational fear of crime does not exist, following Lupton and Tulloch’s argument above. Or, it is possible that irrational fear of crime does exist and in more than one form. First, someone who overestimates crime prevalence and personal risk of victimization will likely experience greater fear, which could be labeled “irrational” because the fear is not based on objective risk. This person doesn’t realize the irrationality, however. Subjectively, such fear is perfectly rational. Second, someone could fear crime despite estimating low crime prevalence. For example, someone could understand that there is a very low chance of being murdered during a Craigslist

transaction but still be nervous about giving a stranger her address. This person realizes that their fear is irrational. However, calling someone's fear "irrational" implies that there is a correct level of fear, which is problematic.

Other Possible Types of Fear of Crime

As outlined in the introduction (see *Public Perceptions and Fear of Crime in the US*), perceptions and fear of neighborhood crime may be different than perceptions and fear of national-level crime. Fear of crime could refer to one's fear of victimization, fear that crime is a problem in their neighborhood, or fear that crime is a problem for the country. Ferraro and LaGrange (1987) proposed a taxonomy of fear of crime, in which there are six possible types: general judgments, general values, general emotions, personal judgments, personal values, and personal emotions (p. 72). They specify general and personal fear of crime to distinguish between fear for oneself and fear for others or society at large. Values refer to one's concern about crime, especially as related to public crime perceptions. Judgments refer to perceptions of victimization risk and assessments of safety. Finally, Ferraro and LaGrange (1987) recognize emotions as the physiological reaction to crime or symbols of crime. They note that fear of crime should technically be limited to emotional reactions, but "many researchers have not followed such a classification and have referred to fear of crime when actually measuring either judgments or values about crime" (p. 71). Though, as I describe below (see *Fear of Specific Crimes*), Ferraro's approach to measurement is likely insufficient also.

Conceptual Gaps in the Literature

It remains unclear what the construct "fear of crime" is. Studying fear of crime is difficult when few researchers can agree on what it means. One possible issue is that

perhaps situational, dispositional, concrete, formless, rational, and irrational fear of crime are all different constructs. In addition, “fear of crime” simply may not be the best name for this phenomenon. Perhaps “concern about crime,” “worry about crime,” “anxiety about crime,” “stress about crime” or “crime sensitivity” better captures the experience. Similarly, Hale (1996) wondered, “is ‘fear of crime’ simply measuring fear of crime or, perhaps in addition, some other attribute which might be better characterised as ‘insecurity with modern living’, ‘quality of life’, ‘perception of disorder’ or ‘urban unease’?” (p. 84). Over two decades have passed since Hale’s thorough 1996 review and there has been little advancement in conceptualizing and operationalizing fear of crime. An inconsistent tradition of defining fear of crime has led to a haphazard history of measurement.

A History of Measuring Fear of Crime

Many researchers have attempted to measure fear of crime, but all have fallen short in critical ways. Much research on fear of crime has used one or two items from the GSS or the National Crime Victimization Survey (NCVS). Some researchers have measured fear of crime by asking about fear of specific crimes, ranging from one crime (robbery; Gray et al., 2011) to 16 different crimes (Warr, 1984). Other researchers (Cops, 2013; Lee, 1982; Phelan et al., 2010) have attempted more advanced measurement by asking about the underlying construct “fear of crime,” but all have serious issues regarding survey methodology. To date, there is no widely accepted comprehensive measurement scale for fear of crime.

Previous Measurement

GSS and NCVS

The earliest examinations of “fear of crime” used only one item, from either the GSS or NCVS. The GSS was among the first surveys to ask about fear of crime. Since 1973, the survey has asked, “Is there any area right around here—that is, within a mile—where you would be afraid to walk alone at night?” (NORC, 2018). While this item likely captures part of the construct “fear of crime,” it does not specifically ask about crime and only focuses only on walking alone at night in one’s own neighborhood (assuming the survey is taken in the respondent’s neighborhood).

The United States Department of Justice (USDOJ) began administering the National Crime Survey (NCS; now called the NCVS) in 1972 (Garofalo, 1979). Victimization surveys became a popular way to study crime as criminologists recognized the shortcomings of official police data (namely, underreporting). In the US, victimization surveys were first used in the mid-1960s, but the NCS was the first standardized survey to measure victims’ experiences of both crime and its effects (USDOJ, 1989). The NCVS asks, “How safe do you feel being outside and alone in your neighborhood at night?” (Hale, 1996; Hinkle, 2015; McGarrell et al., 1997). Sometimes researchers use a corresponding item about daytime. Several studies (Covington & Taylor, 1991; Gibson et al., 2002; Liska et al., 1982; McGarrell et al., 1997) have used some form of this one- or two-item measure. While the items can predict meaningful outcomes (e.g., gender differences; Gibson et al., 2002), they do not necessarily measure fear of crime.

One or two items is likely insufficient to measure such a complex construct. Worse, the NCVS items do not precisely measure fear of crime, but instead measure perceived safety when outside the home. Though perceived safety is conceptually related to fear of crime (low perceived safety should increase fear), they are not the same variable. Perhaps most importantly, these one- or two-item measures cannot accurately assess fear of crime outside of one's own neighborhood, inside one's house, with other people, or in response to specific stimuli. Another important conceptual issue with the original item is that those who are most fearful are least likely to be alone outside at night (Hale, 1996). So, the original NCVS item is potentially irrelevant or confusing to participants, which could increase participant burden and weaken the validity of the measure.

Fear of Specific Crimes

Warr (1984) developed a 16-item measure that asks participants to indicate their level of fear of 16 different crimes, including "being beaten up by a stranger," "being murdered," and "having something taken from you by force" (p. 685). Participants indicated their level of fear on an 11-point scale where 0 = not afraid at all and 10 = very afraid. Warr (1984) did not report a measure of reliability. Warr's (1984) measure, though mostly straight-forward, also asks some unexpected questions. In addition to the items mentioned above, he also asked participants to rate their fear of "being sold contaminated food" and "being cheated or conned out of your money" (p. 685). These two items are drastically different from the others (which ask about robbery, rape, assault, etc.). If someone reports a high fear of being sold contaminated food, it may not reflect fear of crime but rather a food- or disease-related fear.

Ferraro (1995), similar to Warr (1984), used a 10-item measure that asked participants to rate their fear of 10 different criminal or disorderly events. Ferraro's items were similar to Warr's original 16 items and included "being approached on the street by a beggar or panhandler," "being attacked by someone with a weapon," and "being murdered" (p. 35). Interestingly, he also included the item "being cheated, conned, or swindled out of your money." However, Ferraro (1995) calculated separate scores for general fear of crime (all 10 items), fear of property crime, and fear of personal crime. He reported that all 10 items yielded a Cronbach's alpha of .90.

Ferraro and LaGrange (1987) outlined several poignant issues with fear of crime conceptualization and measurement, including the trend to ignore emotional fear. Yet, Ferraro's (1995) scale does not truly address emotion. Simply asking people "how afraid" they are of a list of crimes does not necessarily measure fear. Ferraro and LaGrange (1987) recognized that fear constitutes an emotional reaction with distinct physiology that motivates behavior in a moment of perceived threat. According to such a conceptualization, fear of crime could only be measured with reference to a specific moment in someone's life. Furthermore, even if Ferraro's (1995) scale were able to capture such a definition of fear, it does not communicate this definition to participants.

Other studies have continued the trend of asking about specific crimes. Ackah (2000) asked about fear of 13 crimes, which were chosen because they were the most common 13 crimes in the study area (Washington, DC), though many items match Warr's (1984) measurement. No Cronbach's alpha has been reported for Ackah's (2000) scale. Franklin and colleagues (2008) asked about seven crimes and found an alpha of .89. However, they included the double-barreled item, "Yourself or someone in your

family getting sexually assaulted” (p. 222), which cannot distinguish between fear of direct victimization and fear of indirect victimization. Marzbalia and colleagues (2012) asked about five crimes: burglary, car theft, assault, sexual assault, and rape, and found an alpha of .951. This scale would likely underestimate fear of crime in men since two of the five crimes are much more likely to happen to women. Plus, car theft is not relevant to those without a car. Swatt and colleagues (2013) also asked about fear of five crimes: burglary, robbery, theft, assault, as well as fear that “someone will try to involve your child or family member in selling drugs” (p. 10) and found an alpha of .905. Gau and colleagues (2014) only asked about fear of assault, burglary, and robbery, and found an alpha of .89.

Gray and colleagues (2011) advanced measurement by assessing both frequency and intensity of worry as well as the impact on participants’ quality of life, but they asked only about robbery. There are two major issues with this. First, using one crime as a proxy for all crimes is insufficient. Second, asking about robbery in particular could skew results. In order to fear robbery, one must have items that they perceive to be valuable. Measuring only worry about robbery could underestimate fear of crime in low SES individuals, who tend to be among the most fearful (Stafford et al., 2007).

Despite the one-dimensionality and conceptual gaps associated with the crime-by-crime approach to measuring fear of crime, it remains a popular choice. This begs the question: which specific crimes are important to ask about when measuring fear of crime? Further, even if researchers asked participants to rate their fear of every possible crime, would this adequately capture fear of crime?

Global Fear of Crime

The GSS, NCVS, and fear of specific crimes approaches have likely not fully captured the subjective experience of fear of crime. The global fear of crime approach attempts to measure fear of crime by uncovering the underlying construct. Lee (1982) created one of the first global fear of crime measures. Instead of measuring fear of specific crimes like Ferraro, Warr, and others, he asked about more general worry. He included 13 items on a variety of response scales, but he did not report a Cronbach's alpha. Many items begin with "I worry a great deal about..." including "I worry a great deal about my personal safety from crime and criminals" (p. 290). Other items, however, are not as well constructed. "If someone assaulted me, I could protect myself" reflects physical ability more than fear of crime. It cannot be assumed that everyone who is equally physically capable is equally afraid of crime. Further, the last item—"Please tell us whether *crime or fear of crime* has been a serious problem for you in the past year" (emphasis added)—is double-barreled to the extent that results are uninterpretable. If someone scores high on this item, what does it mean? Someone could have a serious problem with crime but a low level of fear. Or, someone could have no problem with crime but have a high level of fear.

Phelan and colleagues (2010) modified Senn and Dzinis' (1996) fear of rape scale to ask about violent crime more generally. They asked 28 questions on a 5-point scale where 1= never and 5 = always. They found an alpha of .93. Example items include: "I think twice before going out for a walk late at night" and "The possibility of physical assault affects my freedom of movement" (p. 45). Though this measure is likely to yield scores that relate to general fear of crime, many questions ask about cognitions and

behaviors and not directly about emotion or feeling. For example, “I carry objects (keys, knife, something sharp) when I walk alone at night” measures behavior, not fear. This scale also repeats the mistake of asking about potentially irrelevant crimes. Five of the 28 items ask about public transportation habits and four items ask about one’s car. “When I am choosing a seat on the bus or subway I am conscious of who is sitting nearby” is irrelevant to those who don’t use public transportation, just as “If I was driving alone and I had to park my car, I would try to park on a well lit street” is irrelevant to those who don’t have a car. Both access to public transportation and car ownership vary systematically according to location, urbanicity, and socioeconomic status. Therefore, results from this scale may not reflect fear of crime but instead may reflect these variables.

The most recent departure from typical fear of crime measurement comes from Cops (2013). He included eight items that—like Lee (1982) and Phelan and colleagues (2010)—attempt to measure a more global fear of crime construct (though a Cronbach’s alpha has not been reported for this scale). Like other scholars, he recognized the need for careful measurement but, also like other scholars, he repeated common pitfalls. The first four items do not mention crime at all:

1. Nowadays it is too unsafe to let children be unsupervised on the streets.
2. Out of fear something [sic] happening to me, I do not dare to go out alone at night.
3. In the evenings you have to be very careful walking down the streets.
4. During the last years, the streets have become less safe. (Cops, 2013, p. 1113)

Admittedly, these items can measure fear of crime if asked in the right context. I am concerned, however, that these items are not specific enough. Since they do not mention crime, these items could measure concern about traffic, lack of sidewalks, uneven or icy sidewalks, or even stray dogs. The other four items are more specific:

5. The police are not capable of protecting us against criminals anymore.
6. Out of fear of assault, I do not dare to go to some neighbourhoods.
7. A burglar alarm is not a superfluous luxury nowadays.
8. I do not dare to stay home alone during the evenings and nights. (p. 1113)

These items, though more specific, are not without flaws. Item 5 may not necessarily measure fear of crime, but rather confidence in the police. Item 7 is unnecessarily wordy and may confuse participants. I am also concerned that including “nowadays” (Items 1 and 7), “during the last years” (Item 4), and “anymore” (Item 5) is leading and thus encourages an acquiescence bias. In other words, the wording of these items may lead participants to believe that crime is a serious problem or has increased in recent years. Properly measuring fear of crime requires careful application of both theory and survey methodology.

Improving Measurement

Despite a long history of inadequate self-report fear of crime measures, it remains the most appropriate method to measure the construct. The major strength of self-report measurement is that fear of crime is inherently experiential, so participants should be the best judges of their own fear (Hale, 1996). The downfall, of course, is that self-reporting requires participants’ interpretation of the questions, which may not mirror the researchers’ intentions (Dillman et al., 2014). Self-reports are also subject to fatigue,

faulty memory, and social desirability (Dillman et al., 2014). Despite these shortcomings, self-report is likely still the best way to measure fear of crime.

In his comprehensive review of research on fear of crime, Hale (1996) offered recommendations (from Ferraro and LaGrange, 1987) for its measurement. First, he urged researchers to measure the emotional component of fear. Asking about perceived risk and behavior adaptations is still important given their relatedness to fear of crime, but they should not be used as proxies for the construct. Second, questions should ask participants specifically about crime. Sometimes survey items (such as the GSS and NCVS items above) only imply crime, but do not directly ask about it (Ferraro & LaGrange, 1987; Hale, 1996). Instead, survey questions about fear of crime should be direct in mentioning crime. He also recommended asking questions about specific crimes (as done by Ferraro and Warr) in order to measure fear of particular offenses. Third, he warned against asking participants to answer questions about hypothetical situations. Instead, questions should be framed to ask participants about their “everyday life” (Hale, 1996, p. 94).

Another methodological consideration is whether to prioritize intensity or frequency of fear. What does it mean to have high fear of crime? Arguably, both intensity and frequency are important for understanding fear of crime, but researchers’ priorities will influence the measure’s ability to detect fear (Gray et al., 2011). If intensity is prioritized in measurement, having high fear means experiencing a strong emotional reaction (e.g., terror), if only once. If frequency is prioritized, having high fear means being constantly emotional, even if the feeling itself is relatively benign (e.g., worry).

Since both intensity and frequency are important for understanding this phenomenon, both should be measured.

Despite recent advancements in measuring fear of crime, it remains unclear what the construct is. Fear of crime cannot be properly measured without a careful definition. Moving forward, Hale (1996) recommended studying fear of crime qualitatively to better understand the phenomenon and operationalize the construct. Further, the global fear of crime approach seems to be the most promising avenue for measurement. Other measurement approaches have not been able to capture the subjective experience of fear of crime, which is likely what accounts for the effects on individuals, neighborhoods, and the nation (see *Effects of Fear of Crime in the US*). Though many of the previous measurement attempts have yielded reliable measures, reliability is necessary but not sufficient for validity. It appears that existing fear of crime scales reliably measure one construct, but the construct may not be fear of crime.

Despite the many attempts to define and measure fear of crime, no researchers (to my knowledge) have used theories of emotions to inform their definitions. Atheoretical research hinders the study of fear of crime. The criminological tradition of fear of crime research can benefit from psychological theories of emotion.

What is Fear?

Conceptualizing fear of crime requires conceptualizing fear as an emotion. A major purpose of the current study was to apply psychological theories of emotion to the criminological study of fear of crime. There are two major competing theories on emotions that inform the definition of fear: the basic emotions perspective (Ekman, 1999;

Ekman & Cordaro, 2011) and the theory of constructed emotion (Barrett, 2017b). I will also introduce trait emotions as a third approach to conceptualizing fear.

Basic Emotions

Paul Ekman's cross-cultural research led to his theory of basic emotions. There are two major assumptions of this perspective. First, basic emotions—anger, fear, surprise, sadness, disgust, contempt, and happiness—are all separate phenomena that are distinguished by certain features (Ekman, 1999; Ekman & Cordaro, 2011). Second, distinct basic emotions evolved because they were each integral to early human survival (Ekman, 1999; Ekman & Cordaro, 2011).

Features of Basic Emotions

This perspective posits that there are seven basic emotions: anger, fear, surprise, sadness, disgust, contempt, and happiness. Basic emotions are all discrete phenomena that each meet several criteria (Ekman & Cordaro, 2011). Each of these basic emotions are characterized by distinct physiology (including facial expressions, brain activity, and heartrate), automatic appraisal (i.e., automatic evaluation of a stimulus), universal antecedent events (i.e., specific types of triggers), presence in other primates, possibility of quick onset, possibility of brief duration, distinct cognition, and distinct subjective experience, among other criteria (Ekman & Cordaro, 2011). The basic emotions perspective is essentialist, arguing that each basic emotion has an essence that can be found in nature.

According to Ekman, fear is a basic emotion. Fear is a reaction to the threat of physical or psychological harm and it motivates avoidance and escape behaviors (Ekman, 1999; Ekman, 2003; Ekman & Cordaro, 2011; Öhman, 2008; Öhman & Mineka, 2001).

On the face, fear is characterized by raised upper eyelids, tensed lower eyelids, and an open mouth with horizontally stretched lips (Ekman, 2003). In the body, the heart races and blood rushes to the legs in preparation to flee (Ekman, 2003). In the brain, the amygdala is active and prepares defense responses (Öhman, 2008).

Evolutionary Value of Emotions

The basic emotions perspective highlights the role of emotion in human evolution. Ekman (1999) posited that basic emotions evolved over time to help humans deal with “fundamental life tasks” (p. 45). Humans inherently have high cognitive load, but emotions allow us to quickly and efficiently deal with different types of stimuli (Ekman & Cordaro, 2011). For example, it is evolutionarily adaptive for humans to see a snake and automatically feel fear. Fear allows a human to avoid death and pass on their genes, thus being central to human evolution.

Following this perspective, fear is an unpleasant emotional response to immediate threat and “an intense urge to defend oneself” (Öhman, 2008, p. 710). Basic emotions theorists argue that fear has a clear evolutionary function; it is central to evolution because it encourages survival by means of avoiding or escaping life-threatening danger (Öhman, 2008). Many people have a fear of spiders or snakes because they were threats to early humans (Öhman, 2008). Due to the adaptive nature of fear, human perception is inherently biased toward threat (Öhman, 2008). So, because survival is at stake, false negatives (not perceiving or reacting to a threat when one is present) are more dangerous than false positives (perceiving or reacting to what turns out to be a nonthreat; Öhman, 2008). However, other researchers caution that any claims about the evolutionary

function of psychological phenomena rely on human inference, which is inherently biased (Barrett, 2017a).

Because of the theorized evolutionary value of basic emotions, this perspective posits that these emotions are nearly identical across cultures (Ekman et al., 1969). Ekman's earlier work (Ekman & Friesen, 1971; Ekman et al., 1969) focused on cross-cultural similarities in facial displays of emotion. He found that participants in other cultures could identify emotions in photographs of western faces with substantial accuracy (Ekman et al., 1969)—though this finding would eventually be refuted when their studies were replicated with slightly different paradigms (Widen et al., 2011).

A Summary of Basic Emotions

Ekman's basic emotions perspective argues that basic emotions evolved from the needs of early humans, are inborn, and are universal across cultures. The seven basic emotions—anger, fear, surprise, sadness, disgust, contempt, and happiness—are distinguished by different triggers, brain activity, facial expressions, cognition, and subjective experience.

Theory of Constructed Emotion

In direct contrast to Paul Ekman's basic emotions perspective is Lisa Feldman Barrett's theory of constructed emotion. Broadly, the theory posits that emotions are not hardwired in the brain from birth, but rather are constructed by the brain in the moment as needed (Barrett, 2017b). There are three central tenets of the theory of constructed emotion. First, the brain is predictive, not reactive. Second, emotions are rooted in affect, categorization, concepts, and language. Third, emotions cannot be distinguished by distinct triggers, facial expressions, brain activity, or physiological activity.

The Predictive Brain

Barrett contends that the brain is not reactive, it is predictive (Barrett, 2017b). If the brain were reactive, people would be overwhelmed by every stimulus they encountered. The brain's remarkable efficiency relies on constant predictions of a person's metabolic needs in a given situation (Barrett, 2017b). The brain continuously makes predictions based on past experiences and present context. As the brain predicts the body's needs in a situation, it prepares the body for an action (Barrett, 2017b). Then, we feel physiological changes such as increased heart rate or an achy stomach. The brain also relies on prediction to interpret sensory input and give meaning to these bodily sensations (Barrett, 2017b). These sensations can be experienced as affect (Barrett, 2017b).

Affect, Categorization, Concepts, and Language

The theory of constructed emotion posits that emotions have two components: affect and emotion concepts. Affect varies along two dimensions: valence and arousal (Barrett, 2017b; Barrett & Bliss-Moreau, 2009). Valence refers to feeling either pleasant or unpleasant and arousal refers to the level of intensity of the pleasant or unpleasant feeling. The affective circumplex is a visual representation of these two dimensions (Russell, 1980). The theory of constructed emotion contends that emotions are not universal or hardwired at birth, but affect is (Barrett, 2017b; Barrett & Bliss-Moreau, 2009; Mesman et al., 2012). Pleasant and unpleasant feelings are seen in infants and in all cultures. Emotion occurs when someone feels either pleasant or unpleasant (affect) and attaches a label (emotion concept) to it. In this way, basically, emotions are a person's categorization of bodily sensations in relation to the world around them (Barrett, 2017b).

As such, emotions are highly dependent on context. Barrett (2017b) summarizes, “. . . purely physical sensations inside your body have no objective psychological meaning. Once your concepts enter the picture, however, those sensations may take on additional meaning” (p. 29). For example, the feeling of an achy stomach can have many different meanings depending on the context. In front of an audience, it can mean nervousness. On a date, it can mean sexual arousal. After a transgression, it can mean guilt. After a death, it can mean sadness. During a tied game, it can mean excitement. When being followed by a stranger at night, it can mean fear. A person’s interpretation of the aching feeling depends on the brain’s assessment of that person’s needs in that context as well as their previous experiences in similar contexts.

The meaning that someone assigns to their affect depends on the mental concepts that person is familiar with. People use mental concepts every day and emotions are a particular kind of mental concept. For example, money is a common concept that people use without realizing it. Green slips of paper mean nothing on their own; it is the collective agreement about their value that makes them meaningful (i.e., the social concept “money”). Emotions are similar, but they are unique in that they are concepts applied to bodily states. In other words, emotions are embodied cognition (Barrett, 2017b). “This ‘abstract-plus-concrete’ combination makes emotion concepts interestingly different from other abstract concepts” (Winkielman et al., 2018, p. 6).

Concepts depend on language, because emotion concepts are labels for affective experiences. Emotional granularity refers to a person’s ability to distinguish different emotional concepts (Barret, 2017b; Barrett & Bliss-Moreau, 2009). For example, someone who can feel the difference between “happy” and “blissful” or between

“nervous” and “anxious” has higher emotional granularity than someone who considers those pairs to be synonyms. Once a new emotion concept is learned, the brain can label an affective experience with that emotion word in the future. For example, when English speakers learn the word “schadenfreude”—which is a German emotion referring to the feeling of pleasure from someone else’s misfortune—they now have a new label they can use to make sense of their affect in future situations. So, learning new words can actually increase a person’s emotional repertoire.

In this way, emotions are bound by language. The emotions people feel depend on the words they know to describe their affective experiences. Barrett (2017b) summarizes this notion, “Emotions are not your reactions *to* the world; they are your constructions *of* the world” (p. 104, emphases in original). This notion is consistent with the sociological tradition of symbolic interactionism. According to symbolic interactionism, meanings of things are social products that arise from social interaction, shared language, and communication (Stryker & Vryan, 2003). Barrett would agree that the meanings of emotions depend on social interaction and are bound by language.

Variability in Emotional Expression

Just as feelings can be interpreted as a variety of emotions depending on the context, a single emotion can lead to a variety of expressions or actions depending on a person’s goals in a given context. As Barrett (2017b) explained,

When you experience an emotion such as fear, you might move your face in a variety of ways. While cowering in your seat at a horror movie, you might close your eyes or cover them with your hands. If you’re uncertain whether a person directly in front of you could harm you, you might narrow your eyes to see the

person's face better. If danger is potentially lurking around the next corner, your eyes might widen to improve your peripheral vision. "Fear" takes no single physical form. Variation is the norm. (p. 11)

A meta-analysis of 202 studies of autonomic nervous system reactivity revealed that emotions are not hardwired or universal (Siegel et al., 2018). They found no pattern that can distinguish individual emotions when examining physiological arousal during emotion induction. Cardiovascular, respiratory, and electrodermal responses showed no patterns specific to any emotion. An older meta-analysis also found that nervous system responses could not distinguish between different emotions but could distinguish between pleasant and unpleasant affect (Cacioppo et al., 2000). This suggests that the boundaries of emotions are just stereotypes of affective experiences that, in reality, are highly variable.

A Summary of Constructed Emotion

According to the theory of constructed emotion, emotions are not inborn from birth, they are constructed by the brain in the moment as needed (Barrett, 2017b). Emotion starts with affect—feeling pleasant or unpleasant at a certain level of intensity. Then, a person categorizes their affect as due to something either non-emotional (e.g., tiredness) or emotional (e.g., sadness). In this way, emotion is embodied cognition; it is a person's attribution of why they are feeling a particular feeling.

Trait Approaches to Emotion

Aside from the basic emotions perspective and the theory of constructed emotion, other approaches to emotion suggest that emotions can be trait-like. Research on phobias, trait anxiety, and trait fear suggest that fearful experiences are connected to personality.

Phobias

Some people may focus their fear on specific external sources (Öhman, 2008).

Phobias are considered to be clinically extreme fear reactions to a specific stimulus.

Below are the diagnostic criteria for a specific phobia according to the DSM-5. In order to qualify for a specific phobia diagnosis, all seven of the following criteria must be met:

- A. Marked fear or anxiety about a specific object or situation (e.g., flying, heights, animals, receiving an injection, seeing blood) . . .
- B. The phobic object or situation almost always provokes immediate fear or anxiety.
- C. The phobic object or situation is actively avoided or endured with intense fear or anxiety.
- D. The fear or anxiety is out of proportion to the actual danger posed by the specific object or situation and to the sociocultural context.
- E. The fear, anxiety, or avoidance is persistent, typically lasting for 6 months or more.
- F. The fear, anxiety, or avoidance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- G. The disturbance is not better explained by the symptoms of another mental disorder. (APA, 2013, p. 197)

The content of phobias tends to be relevant to pretechnological humans—such as spiders or snakes—suggesting that phobias may have evolved because they were adaptive (Öhman & Mineka, 2001). Phobias may develop in response to experiencing trauma, observing someone else's trauma, experiencing a panic attack in the feared situation, or

“informational transmission” (i.e., learning about the feared stimulus; APA, 2013, p. 199–200). Prevalence of phobias is highest (16%) in children ages 13–17 and lowest (3%–5%) in older adults (APA, 2013).

Trait Emotions

Colloquially, it is understood that some people are inherently more happy, anxious, or angry than others. Or, more generally, some people are described as more emotional than others. This lay perception is largely supported by research. Despite his theory of basic emotions, even Ekman recognized that “Individuals differ in nearly every aspect of human behavior, and emotions are no exception” (2003, p. 153). More recently, Ekman found that 82% of leading emotions researchers agree that “specific personality traits are related in some way to specific emotions, such as fear to shyness” (2016, p. 32).

Izard (1977), as well as Malatesta and Wilson (1988), posited that individuals can be predisposed to feeling certain emotions and that such predisposition has biological and developmental roots. First, biological differences cause infants to be differentially prone to exhibiting certain emotions, which then influence social interactions, and eventually may lead to personality characteristics (Izard, 1977). As early as infancy, children each have different thresholds for experiencing certain emotions (although Barrett would argue that infants are only capable of feeling affect). For example, he noted that some infants are more easily frightened than others. An infant with repeated fearful episodes will elicit different reactions from others than an infant who is not prone to fear (Izard, 1977). Then, over time, such biological tendencies will continue to influence the kinds of interactions one has with others. In this way, fear can develop into an individual difference characteristic (Izard, 1977).

Trait Anxiety. Trait anxiety is a relatively stable propensity to experience anxiety. Spielberger and colleagues (1983) explained,

Trait anxiety (T-Anxiety) refers to relatively stable individual differences in anxiety proneness, that is, to differences in between people in the tendency to perceive stressful situations as dangerous or threatening, and to respond to such situations with elevations in the intensity of their state anxiety (S-Anxiety) reactions. . . . The stronger the anxiety trait, the more probable that the individual will experience more intense elevations in S-anxiety in a threatening situation. (p. 5)

So, although anxiety itself is a state, people with high trait anxiety are more likely both to interpret situations as threatening and experience more intense state anxiety during those situations than those with low trait anxiety (Elwood et al., 2012). Sylvers and colleagues (2011) agreed that trait anxiety is characterized by an overestimation of threat and suggested that it also involves the inability to avoid threat and a pattern of discrepancy between one's expectations and the environment. In these ways, anxiety can be an enduring personality trait.

Trait Fear. Though the research on trait fear is limited, there is evidence to suggest that, like anxiety, fear could also be trait-like. Sylvers and colleagues (2011), inspired by Epstein (1972), proposed that trait fear is hypersensitivity to environmental threats as well as the avoidance of threatening situations. Trait fear is also related to startle reflex potentiation, which is the activation of the startle reflex in reaction to aversive stimuli (Vaidyanathan, Patrick & Bernat, 2009). Together, this means that when in the same threatening situation, those with high trait fear, in comparison to those with

low trait fear, are likely to be more startled and more fearful. Although, those with high trait fear are also more likely to avoid threatening situations that would cause such reactions.

There is a clear conceptual overlap between trait fear and trait anxiety, but researchers consider them to be distinct constructs. Sylvers and colleagues' (2011) recommendations for creating self-report measures summarizes their meta-analysis on the differences between trait fear and trait anxiety. “. . . self-report measures of trait fear should emphasize freezing and avoidance behaviors aimed at an array of specific threats, whereas self-report trait anxiety should emphasize hypervigilance, uncertainty, and hyperarousal” (p. 134). They also point out that there are physiological differences including differences in pupil dilation and brain blood flow.

Gaps and Disagreements in Emotions Theory

The DSM-5 criteria for a phobia diagnosis suggest that perhaps fear and anxiety are not distinct constructs. Each of the criteria mentions “fear or anxiety” or sometimes “fear, anxiety, or avoidance.” This implies that these concepts are interchangeable in this context. Perhaps phobias are simply intense aversions—not necessarily marked by fear or anxiety specifically. Further, the diagnostic criteria for a phobia are notably excluding some relevant emotions, such as panic. If someone experiences panic only in the presence of a given stimulus (e.g., spiders) does that not indicate a phobia? I would argue that fear, anxiety, avoidance, panic, and possibly other emotions are all relevant in the context of a phobia.

The basic emotions perspective cannot account for personality differences in emotional experience. If emotions are universal, then every person in the same context

should exhibit the same emotional expression, but this doesn't happen. Constructed emotion can account for personality differences in emotions, however. Each person's brain constructs emotions based on predictions made using past experiences and present context. Since everyone has different experiences, people's emotions will rely heavily on their unique experiences. Someone who has been bit by a rattlesnake would be more likely to fear snakes than someone who played with garden snakes as a child.

Applying Emotions Theories to Defining and Measuring Fear of Crime

The basic emotions perspective suggests that the objective way to measure fear of crime would be to observe or physiologically measure fear in response to criminal stimuli. Facial expressions, brain activity, and physiological reactions in the body would all be objective measures of fear of crime according to Ekman. However, this is impractical and potentially unethical.

The theory of constructed emotion posits that emotions cannot be "detected" in other people, since there are no objective markers that can distinguish between emotions (Barrett, 2017b). Instead, the only way to measure emotion is via self-report. Only the person experiencing an emotion can give an accurate account of what emotion they are feeling.

The definition and measurement of fear of crime should be grounded in participants' subjective experience, but with so few qualitative studies on fear of crime it remains unclear just how it is experienced. Researchers recognized decades ago that studying fear of crime qualitatively could help fill conceptual gaps (Fattah & Sacco, 1989; Hale, 1996), yet the literature remains overwhelmingly quantitative. Without

qualitative approaches, research on fear of crime will continue to examine only presumptions of a phenomenon.

Qualitative Research on Fear of Crime

The state of fear of crime research reveals three major problems regarding qualitative study. First, qualitative research on fear of crime is much less common than quantitative research. Second, most qualitative studies on fear of crime were conducted in the UK, and third, most were not published in the last decade. Despite scholars' early recognition of the importance of qualitative research on fear of crime (Fattah & Sacco, 1989; Hale, 1996), qualitative studies make up a disjointed and limited body of literature.

Lorenc and colleagues (2013) conducted a systematic review of qualitative research on fear of crime in the UK. They only reviewed studies that focused on the relationship between the built environment and fear of crime. They reviewed a total of 40 studies ranging in date from 1989 to 2010, with most studies published around 2001. They found that the built environment does affect fear of crime—fear is higher in areas that are unfamiliar, poorly lit, and disordered. In the social environment, people fear strangers, especially groups of young people, and women fear men.

Most American qualitative studies were published decades ago. Poveda's (1972) account of a small California town revealed that residents were concerned about drugs and crime in their area and attributed criminal behavior to psychiatric problems. Unfortunately, he dismissed the residents' perceptions by concluding,

The community's construction of a new myth of deviant behavior should go beyond the eighteenth century 'classical' view of crime, which explained human behavior in terms of wrong choices, deliberately made, that had little or no

relationship to any social system. Any attempt to deal with crime should recognize it as more than a ‘private trouble.’ Crime should be understood as a complex historical and institutional problem. (Poveda, 1972, p. 153)

With only minimal analysis, he did not conclude much beyond that. By writing that the residents *should* perceive crime a certain way, Poveda missed an opportunity to understand what their perceptions can tell researchers about the phenomenon of fear of crime. After all, one of the major purposes of qualitative research is to use accounts of participants’ experiences to learn more about a topic (Charmaz, 2014).

Lejeune and Alex (1973) interviewed New York City mugging victims about their experiences. They found that victims adapted after the crime in a variety of ways. Most became more vigilant and avoidant to prevent future attacks. Participants reported adhering to new personal rules for daily life, such as not carrying a purse or not dressing too nicely. As one participant put it, “Of course, not to go out alone is the first rule” (p. 282). Victims also reported trying to understand criminals—“such as the tricks that thieves use” (p. 281)—in order to become a less suitable target. Some increased their capacity to defend themselves, such as by buying a gun. The authors also found that victims adjusted their perceptions of others. Many lost trust in others, including fellow New Yorkers and the police. While this early qualitative study provides an interesting narrative on the aftermath of personal victimization, it only focused on victims and did not necessarily help uncover what it means to fear crime.

Merry (1981) drew on 18 months of ethnographic fieldwork and participant interviews to learn about perceptions of danger in an urban neighborhood she called Dover Square. Notably, she found that the presence of strangers, especially strangers of a

different ethnic group, were often to blame for crime in the area. Chinese immigrant residents believed that Blacks and Hispanics would purposefully target the Chinese for crime, but they also feared Whites because they believed Whites perpetrated crime fueled by their control over society. Chinese residents also felt the police had failed them and thus had to manage danger on their own. Interestingly, second-generation Chinese residents were much less fearful than their parents. Merry attributed the Chinese residents' suspicion to cultural differences and language barriers. Black residents agreed that the neighborhood was dangerous, but they believed that residents of other neighborhoods committed most of the crime. Like the Chinese residents, Blacks also recognized the police as a source of danger. Whites feared crime the least because they had more community-level resources available to them, including more respect from the police. Among Whites, the least fearful were the residents who were familiar with many of the youths committing crimes. Unlike Poveda (1972), Merry (1981) drew heavily from her participants' experiences to theorize about the nature of danger in Dover Square. She concluded, "The sense of danger is rooted in feelings of uncertainty, helplessness, and vulnerability triggered by encounters with strangers who belong to unfamiliar, hostile, and potentially harmful groups" (p. 160). While her book can provide insight into the social cognitive processes that precede fear of crime, she was not concerned with fear *per se*. Rather, she sought to understand how residents perceived and managed urban danger, which is certainly related to fear of crime, but is not necessarily the same construct.

There have been more recent qualitative studies in the US, but they have focused specifically on gender differences in perceived safety and fear of crime. Kelly and Torres (2006) conducted focus groups with college women to understand their perceptions of

safety on campus. They found common themes of harassment, victim blaming, and indirect victimization. Many students believed that crimes against women were inevitable but also that most campus crime was perpetrated by off-campus criminals. Lastly, they found that many women students protected themselves in a variety of ways—avoiding dangerous places, walking in a group at night, talking on the phone while walking home, and locking doors—but very few students used campus resources to alleviate fear. Rader (2010) interviewed married couples about their fear of crime. She found that most men reported feeling less fearful before they got married. After marriage, men felt more fear of crime because they were concerned that their wives could be victimized. Men also reported acting as if they were unafraid in order to make their wives feel safe. Likewise, many women reported feeling safer when with their husbands.

Snedker (2012) interviewed New York City residents about how perceived risk and fear of crime influenced their lives. They sought to explain the relationship between gender and fear of crime. Unlike many quantitative studies (e.g., Ferraro, 1995; Warr, 1984, 1985; Hilinski, 2011), she did not find support for the “shadow of sexual assault” hypothesis—fear of rape did not seem to explain women’s fear of crime. Instead, she found that many women (as well as elderly and disabled men) felt that they were suitable targets for crime and that they could not defend themselves if a crime were attempted. While these studies are important (as well as more recent), their nuanced focus may be premature given the state of the literature.

A comprehensive literature search reveals that within the limited number of qualitative studies on fear of crime, none have focused on understanding what the construct “fear of crime” is and none have been used to improve measurement. Despite

the limitations of previous research, qualitative study can provide considerable insight to the field. An important next step for fear of crime research is to focus effort—both qualitative and quantitative—on conceptualizing and measuring fear of crime.

The Current Study

Gaps in the fear of crime literature call for exploratory, not confirmatory, research. Specifically, given its inherently subjective and experiential nature, fear of crime should be measured according to how people experience it. The current study attempted to uncover the lived experiences of fear of crime in order to develop a more appropriate scale to measure it.

Research Questions

1. How do people experience of fear of crime?
2. Are there demographic differences in fear of crime?
 - a. Are there gender differences in fear of crime?
 - b. Are there age differences in fear of crime?
 - c. Are there racial/ethnic differences in fear of crime?
3. What is the relationship between the new fear of crime scale and previous fear of crime scales?
4. What are the relationships between the new fear of crime scale and related constructs such as global procedural justice, trust in the police, negative emotionality, belief in a just world, and fear of death?
5. Do gender, global procedural justice, and belief in a just world predict fear of crime using the new scale?

Overview of Method

This dissertation had five major components. First, I conducted 29 in-depth interviews to understand how fear of crime is experienced and I used themes and statements from interviews to develop an initial pool of questionnaire items. Second, I pretested initial items with cognitive interviews as well as review by experts in the field. Third, after pretesting and revisions, I collected two quantitative samples for exploratory factor analysis (N = 305) and confirmatory factor analysis (N = 360). Fourth, I combined the two quantitative samples (N = 665) and tested the final questionnaire for convergent and divergent validity. Finally, I conducted the first quantitative empirical tests with the new measure to examine gender, global procedural justice, and belief in a just world as predictors of fear of crime.

CHAPTER 3: QUALITATIVE METHOD AND RESULTS

Qualitative Method

The purpose of the qualitative interviews was to generate a new understanding of fear of crime to inform better measurement. Once interviews revealed how people experience fear of crime, I used both themes and statements to create questionnaire items.

Sample and Participants

I conducted 29 in-depth interviews with community members in Reno, Nevada. I used purposive sampling to ensure that particular categories of people are represented (Robinson, 2014). Specifically, I tried to target people that should have an opinion about crime, based on their neighborhood, profession, or other characteristics. I posted advertisements on nextdoor.com—a neighborhood-based online forum—and in various Reno neighborhoods with differing crime rates (see Appendices A and B). I also attended

Neighborhood Advisory Board meetings for each of Reno's five wards to recruit participants in person. I used snowball sampling to recruit more participants: each interviewee was asked to help recruit more participants by distributing study information to people they know.

All interviewees lived in the Reno-Sparks area, except for Cindy, who had recently moved from Reno to Las Vegas and was interviewed online via Zoom. The sample was 58.6% men. Interviewees ranged in age from 26–73 and the average age of interviewees was 51. Almost one-quarter (24.1%) of the sample worked in law enforcement. There was considerable diversity in interviewees' political affiliation. Most participants (37.9%) were either liberal or very liberal, 34.5% were moderate, 24.1% were either conservative or very conservative, and one interviewee selected "don't know." Over half (51.7%) of interviewees were Christian; 41.4% were agnostic, atheist, or wrote responses such as "none" or "spiritual;" and 6.9% were other religions (one Jewish and one Hindu). One participant (3.4%) had an associate's degree, 24.1% had completed some college, 31.3% had a bachelor's degree, 31.3% had a master's degree, and 10.3% had a doctorate. Most interviewees (89.7%) were White, 10.3% were Black, and one participant was Pakistani. Only one participant had never been the victim of any kind of crime. Complete interviewee demographics are not provided in the interest of protecting interviewees' identity.

Procedure

Interviewees were asked general questions about their perceptions of Reno, their neighborhood, their experience with crime, their emotional reactions to crime, and their fear of crime. They were first asked broad questions about their perceptions of Reno and

their experience living in the city. Then, the majority of questions asked participants about their perceptions and fear of crime. See Appendix C for the interview guide. Interviews lasted approximately one hour and were audio recorded and transcribed with participants' consent. After the interview, participants completed a brief exit survey with demographic questions (see Appendix D).

I coded interview transcripts in Dedoose using a combination of induction and reference to theory and literature. I first coded for interviewee attributes, which are characteristics of interviewees that are applied to an entire transcript. Specifically, I coded each transcript for gender, race, religion, age, political affiliation, prior victimization, and whether the respondent was a police officer or a civilian. Then, I applied broad codes to indicate the question and response for each major question in the interview protocol. Finally, I applied more specific conceptual codes for emerging themes and concepts that are consistent with theory and prior literature. I used this conceptual coding to categorize interviewees' remarks about their feelings and emotions regarding crime.

Since the purpose of the qualitative portion of this project was to uncover the emotional experience of fear of crime, I focused most on coding participants' feelings and emotions. Three major coding categories emerged: emotion words, unpleasant affect, and concern. I coded statements as emotions when only interviewees mentioned specific emotion words. For example, I coded for fear only when interviewees mentioned words such as "fear," "fearful," "afraid," "scared," "scary," "terrifying," "terrified," "frightening," and "frightened." Other statements or emotion words were not coded as fear. That is, I did *not* code a statement as fear if an interviewee mentioned feeling

quicken breathing or increased heart rate, for example. I referred to both emotions theories for guidance on coding emotions.

The theory of constructed emotion contends that there are no specific physiological markers of emotions (Barrett, 2017b), so this supports the decision to exclude physiology from emotion codes. Barrett also argues that emotions are bound by emotion *words*, thus further suggesting that coding emotions should be limited to emotion words. The basic emotions perspective posits that there are distinct physiological markers of different emotions, which would suggest that reports of quickened breathing or increased heart rate should be included in emotion codes. However, the two theories agree that emotions differ by subjective experiences (Barrett, 2017b; Ekman & Cordaro, 2011, p. 365), so I focused my coding on the mental experience of fear of crime.

I also coded for unpleasant affect using the same approach. A statement was coded as unpleasant affect if the interviewee mentioned words such as “upset,” “uncomfortable,” “uneasy,” “bothered,” “frustrated,” “stressed,” and “distressed.” None of these words refers to a specific emotion, but rather to general unpleasantness (i.e., unpleasant affect). For example, when interviewees say that crime makes them feel “upset,” it could refer to feeling sad, angry, anxious, or other negative emotions. Since no specific emotion was mentioned, “upset” and related words were coded as unpleasant affect. This is consistent with words used to describe unpleasant affect according to the affective circumplex (Russell, 1980).

I coded for concern with the same process as I coded for fear—only when interviewees used words such as “concern,” “concerns,” “concerned,” and “concerning.” Concern was not coded as emotion or affect, since it is not necessarily an affective state.

There is limited theoretical or empirical guidance on how concern should be coded, but I used the affective circumplex to inform my coding decisions. I treated concern as a cognitive state that may or may not be associated with an affective bodily state. In other words, concern is cognition, but not necessarily embodied cognition. Perhaps concern is the cognitive state associated with perceiving a particular object being relevant to a particular goal.

I specifically did *not* code behaviors as emotions. Many interviewees reported feeling hypervigilant or avoidant independent of their level of fear. For example, some interviewees—especially police officers—said they don't fear crime because they are hypervigilant, whereas others reported hypervigilance because they fear crime. Similarly, some interviewees said they don't fear crime because they avoid certain areas, whereas others said they avoid certain areas because they fear crime. This indicates that the same behaviors can be found in people with varying levels of fear and thus behaviors are not valid indicators of fear of crime.

Qualitative Results

Qualitative analysis revealed three major findings. First, interviewees reported a wide range of emotional experiences regarding the possibility of crime. Second, in addition to emotions, interviewees reported experiences that are consistent with unpleasant affect. Third, when describing their fear, interviewees used many words as synonyms for fear including “concern” and “worry.”

Variety of Emotional Experiences

Fear and Fear-Related Emotions

Interviewees reported a variety of emotional experiences when describing their perceptions of crime. Fear was the most common emotion subcode. All interviewees (100%) mentioned fear or related words including “fearful,” “scared,” “scary,” “afraid,” and “terrified.” I also coded for other fear-related emotion words such as “worry,” “anxiety,” “nervousness,” “paranoia,” and “panic”—each with their own separate subcodes under “emotions.” After fear, worry was the most common fear-related code (66%), followed by anxiety (55%), nervousness (48%), paranoia (31%), and panic (17%). Table 1 shows definitions, examples, and frequencies of codes and subcodes.

Other (Non-Fear) Emotions

Most participants (90%) also reported feeling emotions not related to fear. Overall, the “other emotions” code was the most frequent code after fear.¹ Interviewees reported that crime makes them feel angry, annoyed, irritated, sad, disgusted, disappointed, violated, excited, empathetic, and compassionate, among others.

Gina, a 26-year-old real estate agent, described intense anger, not fear, when watching someone attempt to break into her car: “I could feel my heart rate go up ‘cause I was so angry. . . that really aggravated me for, like, a couple weeks.” Many interviewees also reported feeling multiple emotions.

¹ Since the purpose of this project was to examine the lived experience of fear and to create a fear of crime measure, I did not include any specific subcodes for “other emotions” (e.g., anger, sadness) in Table 1. It is theoretically important to highlight the variety of non-fear emotions reported, but it is beyond the scope of this project to extensively code for other emotions.

Table 1
Definitions and Examples of Codes and Subcodes

Code	Definition	Example Quotes	Frequency of Code
Emotion	Interviewee used words that refer to an emotion concept.		
Fear	Interviewee used words such as fear, afraid, scared, terrified.	“I have always been afraid of being stabbed.”	29 (100%)
Worry	Interviewee used words such as worried, worrisome.	“So I’m not worried about my other citizens doing any damage to me. I’m worried about the police officers.”	19 (66%)
Anxiety	Interviewee used words such as anxiety, anxious.	“Kind of like anxious, well, yeah, I get anxious.”	16 (55%)
Nervousness	Interviewee used words such as nervous, nervousness.	“There was . . . possibly a lot of crime in my Oakland neighborhood. I would be nervous coming home.”	14 (48%)
Paranoia	Interviewee used words such as paranoia, paranoid.	“I think I go back and forth though between accusing myself of being too paranoid, um, or being not trusting of people and that sort of thing.”	9 (31%)
Panic	Interviewee used words such as panic, panicky.	“I have a little sense of panic. I mean I definitely felt panic when we were, um, threatened last year.”	5 (17%)
Other	Interviewee used other emotion words including sadness, anger, disgust, excitement, empathy.	“I could feel my heart rate go up ‘cause I was so angry.”	26 (90%)
Concern	Interviewee used words such as concern, concerns, concerning.	“I tend to be more concerned about violent crimes.”	20 (69%)
Unpleasant affect	Interviewee used words relating to unpleasant affect—such as uncomfortable, upset, bothered—but not to an emotion concept.	“I’d get very upset if I came home and found that somebody had broken in and stolen stuff.”	23 (79%)

Note. N = 29. Example quotes are excerpts from interviewees describing their feelings about crime.

Harry, a 60-year-old carpenter living in a high-crime area, described how he would feel if someone stole his wooden go-kart: “I would feel sad. . . . I would feel sad. I would feel angry. There, you can add anger to the list. Yes, I would feel very angry.”

Dave, a 73-year-old retiree, said, “I get disgusted, I get angry, it’s depressing. I don’t see any excuse for [crime]. I empathize with the victims.” He described feeling disgusted, angry, depressed, and empathetic all at once.

Positive Emotions

Surprisingly, interviewees also expressed more positive emotions. I asked Larry, a 68-year-old retired carpenter, how he would feel if someone broke into his house. He said, “I was wondering if I would be slightly amused . . . Maybe it would be a little bit exciting even.” Similarly, Nancy, a 67-year-old retiree, said, “As somebody who doesn’t have much experience with [crime], I usually get excited [laughing] when something happens. I got very excited when 9/11 happened. And I *didn’t* feel grief or fear . . . and that was not a popular view” (emphasis in original). These examples illustrate that emotion is complex and that fear is just one of many possible emotional reactions to crime. This also reveals that crime is not inherently threatening.

Unpleasant Affect

In addition to emotion words, interviewees used words related to unpleasant affect and not to any specific emotion. This includes words such as “upset,” “uncomfortable,” “uneasy,” and “bothered.” Unpleasant affect was the third most frequent code (79%) after fear and other (non-fear) emotions. Unpleasant affect was a common response to the question, “How does the possibility of crime make you feel?” For example, 33-year-old Franklin responded with “Um, uneasy.” Rita, 48, said “Upset. Yeah, I don’t like an

imbalance of power.” When answering an open-ended question, and not specifically primed for fear, interviewees described a variety of affective experiences in addition to emotional experiences.

Synonyms for Fear

Many interviewees (69%) reported feeling concerned about crime. Interviewees often used the words “fear,” “worry,” and “concern” interchangeably. For example, Olivia, a 31-year-old former prosecutor, reported:

. . . say I watch a particularly scary movie and I’m afraid of someone in the apartment with me. It is more because I’m concerned about what happens when you confront someone in the midst of them committing a burglary . . . it is not because I am worried about, ‘You’re gonna take my TV’— I can get a new TV. It has more to do with, typically, most burglaries, when either the person— the homeowner walks in, or they attempt to break in while the homeowner is there, it ends— there is a violent aspect to it. And it’s [the violence] that concerns me.

Her use of the words “afraid,” “concerned,” and “worried” as synonyms when talking about crime suggests that these are interchangeable in this context and thus all are related to the concept “fear of crime.” Similarly, Mona, a 54-year-old artist and caretaker for her boyfriend who was violently assaulted, said “It’s violent crimes that I, ya know, would worry about. Ya know, going out at night by myself, yeah that would be a crime I would be concerned with.” She, too, used “worry” and “concern” as synonyms. Celia, a 47-year-old editor who works from home, said, “the thing that would make me nervous is that [Reno] does seem to have a lack of community fabric and I worry about like more people

feeling disaffected and kind of like that erratic crime.” Similar to Olivia and Mona, she used “nervous” and “worry” interchangeably.

When probed further, interviewees often confirmed that the emotion words they used interchangeably felt the same to them. Dan, a 41-year-old police officer, told me that his fear of crime feels like “fear of the unknown.” I asked him to clarify: “So that fear feeling . . . is that a different thing than the anxiety that you mentioned before, or is that kind of the same thing for you?” He responded, “Probably the same.”

Qualitative Discussion

All major qualitative findings support the theory of constructed emotion. The variability of interviewees’ emotional experiences with crime reveals that crime is not inherently threatening and that threatening situations can inspire a range of emotions. My qualitative findings challenge criminologists’ assumptions about fear of crime.

First, the frequency of emotions that are not fear-related (e.g., anger, sadness, disgust) suggests that emotions depend heavily on each person’s interpretation of a situation. Thus, emotions toward crime depend on each person’s interpretation of a criminal situation. Fear of crime researchers have assumed that victimization or threat of victimization leads to fear, but trends from interviews suggest many possible emotional outcomes.

This finding resembles an Australian study that found anger/outrage to be the most common emotional response to incivility (e.g., harassment), followed by indifference, whereas only 14% of emotional responses involved fear/unease (Phillips & Smith, 2004). Put simply, crime is not inherently scary. There is no limit to the types of emotions people can feel toward crime. Crime can be infuriating, uninteresting, sad, and

disgusting in addition to (or instead of) frightening. As my interviewee Nancy put it, “I’m just aware that [my friends and I] could be walking together down the street and have totally different realities. Just *totally* different” (emphasis in original).

Second, the high frequency of interviewees that reported unpleasant affect (79%) when not specifically prompted for it suggests that affect is an important component of emotion. Fear of crime appears to encompass a general sense of unpleasantness in addition to specific emotions such as anxiety. A specific emotion may grow from affect when a specific context leads someone to construct that emotion.

Third, interviewees often conflated fear with concern, worry, nervousness, and anxiety. This suggests that the concept “fear of crime” is related to all of these feelings and emotions. Fear of crime does not appear to be a specific phenomenon that exists in the body or brain, but rather is a mental construct with many dimensions. Fear of crime encompasses other emotions such as worry, anxiety, nervousness, paranoia, and panic as well as concern and unpleasant affect. This suggests that the attempt to distinguish between fear, worry, concern, and anxiety—at least in the context of fear of crime—may be unnecessary. In other words, each of these feelings is part of the emotional experience of fear of crime.

CHAPTER 4: SCALE DEVELOPMENT

Creating Items

My qualitative analysis focused most on generating content for a quantitative measurement scale. I created questionnaire items from qualitative interview data in two ways—using both themes and statements from qualitative interviews. First, I created two items for each code: fear, anxiety, worry, nervousness, paranoia, panic, concern, and

unpleasant affect. (I did not use the “other emotions” code to create items.) This is consistent with George and colleagues’ (2006) method to develop a measure of nonadherence to chronic illness treatment. They identified 23 themes from interview data and developed at least one item to reflect each theme (for a total of 30 items).²

Second, I generated items from interview data by using interviewees’ own statements as question stems. For example, one interviewee stated, “I do think it’s really scary, um, the possibility of being a victim of a crime,” which I slightly modified for the following question stem: “The possibility of being a victim of a crime is really scary to me.” A different interviewee stated, “I’m deathly afraid to go outside at night,” which I used word for word as a question stem. In this way, interview transcripts were rich sources of items.

This approach enhances construct validity in two ways. First, question stems reflect actual participant experiences. Instead of assuming the lived experience of fear of crime, using interviewee’s own words measures the construct in an authentic way (Creswell, 2009; Dawis, 1987). Second, using statements from interview transcripts allowed me to generate understandable question stems. Writing questions in lay language increases the readability, and thus validity, of the scale (Dawis, 1987).

² Some of their items corresponded nicely with the interview themes, whereas others were not as straight-forward. The code labeled “Time with health professionals” directly matched their question stem “My doctors spend adequate time with me” (George et al., 2006, p. 53). However, the code labeled “Embarrassment” is only loosely related to its corresponding item “The management of my illness disrupts my life” (p. 53). Without access to their transcripts or coding it is difficult to replicate their process of creating items.

Pretesting Items

I pretested the initial pool of questionnaire items with cognitive interviews and expert review. First, I conducted five cognitive interviews to refine question wording. The major purpose of cognitive interviewing is to assess whether or not participants interpret the items as the researchers intended (Dillman et al., 2014). During a cognitive interview, participants are asked to describe and elaborate on their thinking and decision-making while taking a survey (Dillman et al., 2014; Groves et al., 2009). This process can take many forms and there is no standardized protocol (Groves et al., 2009). In this study, I was concerned with question wording and relevance, so I instructed participants to pay close attention to those issues. I instructed participants to: (1) read the question aloud, (2) paraphrase the question in their own words, (3) define key terms (e.g., fear, crime) in their own words, (4) narrate their logic behind choosing a response, and (5) describe their confidence in the answer they chose (Groves et al., 2009, p. 264). At any time, participants could ask me questions about the intended meaning of an item or other concerns. I adjusted item wording according to participants' questions, concerns, or recommendations. For example, three of five participants critiqued the initial item, "It is terrifying to think that I could become the victim of a crime." They told me that, yes, it is terrifying to think about, but they don't think about it very often. I used their feedback to revise the item to "I'm terrified that someone will commit a crime against me."

After cognitive interviews and adjustment to initial items, I emailed a preview of the survey to field experts and requested their feedback. I sent the items to Chris Hale, Mark Warr, Frank Williams III, Marilyn McShane, Kimya Dennis, Kareem Jordan, and Nicole Rader. Mark Warr criticized the measure for including questions that mention

concern, vulnerability, or related concepts that do not directly address fear. He suggested that I ask about fear directly and not ask about other concepts. However, since my qualitative analysis revealed that concepts such as concern, worry, and other feelings are related to the concept “fear of crime,” I kept those items. Frank Williams and Marilyn McShane (a husband and wife team) responded together. They had no problem with the survey or individual items, stating, “Each [item] will validly reflect some approach to measuring fear of crime.” They also pointed out that I don’t differentiate between victimization of self vs. others, but that I don’t necessarily need to. Kimya Dennis responded positively without any specific suggestions. Nicole Rader responded positively and had two suggestions. She recommended that I ask crime-specific questions, since studies that don’t are often criticized. I did not change my measure to ask about specific crimes for two reasons: (1) it was the goal of this study to make a global measure and (2) I included Ferraro’s scale elsewhere in my survey, which asks about specific crimes. She also recommended that I pilot test my measure with my population of interest, which I had already done with cognitive interviews. Kareem Jordan and Chris Hale did not respond. Expert review did not lead to substantive changes of the initial items. See Appendix E for the 42-item pool tested with EFA.

Exploratory Factor Analysis

Sample and Participants

I used Qualtrics Panels to collect data for the exploratory factor analysis. The only eligibility criteria were that participants must be at least 18 years old and must speak fluent English. Qualtrics used quotas for gender and age. The gender quota ensured a 60% maximum for women participants and the age quota ensured a 50/50 split for

participants above and below age 40. A correct answer to the attention check (“Select ‘somewhat untrue for me’ for this question”) was required.

There were 305 participants for the EFA. The mean age was 42.5 years (SD = 15.3). Forty percent were men and 59.7% were women. One participant chose “other” for gender and wrote “agender.” Most participants (73.1%) were White, followed by Black (13.4%), Latino (5.9%), Asian (3.6%), other/mixed race (3.0%), and Native American (1.0%). Participants’ political affiliation was highly variable, with 28.8% being very liberal, liberal, or somewhat liberal; 44.3% being moderate; and 26.8% being very conservative, conservative, or somewhat conservative. Most participants (69.9%) were Christian, 14.1% were agnostic or atheist, 2.0% were Jewish, 1.6% were Muslim, 1.0% were Buddhist, and 10.8% selected “other.”

Method

All analyses were done in SPSS. All 42 initial items were normally distributed according to visual inspection of histograms and skewness and kurtosis values under 1.0. There were no missing data because Qualtrics settings required answers for all questions. Response options were 1 = “very untrue for me,” 2 = “untrue for me,” 3 = “somewhat untrue for me,” 4 = “somewhat true for me,” 5 = “true for me,” and 6 = “very true for me.” Negatively worded items were reverse coded before analyses.

Before conducting any analyses, I eliminated Items 10, 12, 13, 15, 16, and 29 because the wording was too redundant with other items. Before EFA can be conducted, the determinant must reach a value above .00001 (Field, 2018). Using the correlation matrix, I iteratively removed items with very low and very high inter-item correlations until the determinant reached an acceptable value.

First, I iteratively eliminated Items 14, 28, 9, 32, 5, and 33 due to average inter-item correlations below .40. Afterwards, some individual inter-item correlations were still low (around .20 and .30), so I iteratively removed Items 37 and 27. I then iteratively removed Items 25, 30, 8, 7, 17, 18, 21, and 23, due to average correlations above .70. The determinant had still not reached an acceptable level and there were still many individual inter-item correlations above .70. I then iteratively removed Items 26, 22, 35, 38, 36, and 24 due to high individual inter-item correlations. After removing Item 24, the determinant reached a value of .000013, above the minimum acceptable value of .00001 (Field, 2018). I then removed Item 41 due to high individual correlations with other items.

Then, I conducted an exploratory factor analysis with maximum likelihood and oblimin rotation to identify the underlying factors that are measured by the remaining items. Items 4, 31, and 11 were iteratively removed due to high cross-loadings with a second factor. Ten items remained: Items 1, 2, 3, 6, 19, 20, 34, 39, 40, and 42.

Results

The EFA yielded a single-factor solution according to eigenvalues, scree plot, and factor loadings. Factor 1 had an eigenvalue of 6.38 and was the only factor to have a value above the 1.0 threshold. Visual examination of the scree plot also supported a one-factor model. The single factor explained 63.75% of variance and had factor loadings ranging from .622 to .865. The internal consistency of the 10-item factor was $\alpha = .935$. Average scale scores were normally distributed according to visual inspection of the histogram and skewness and kurtosis values below 1.0. The final items (with their original item numbers) are below.

1. I'm afraid of a crime happening to me.
2. I feel vulnerable to becoming the victim of a crime.
3. The possibility that crime could happen to me is always in the back of my mind.
6. The possibility of crime gives me emotional stress.
19. Crime worries me in my day-to-day life.
20. I can't relax because of the possibility of crime.
34. My mind races trying to keep myself safe from crime.
39. I'm paranoid about my safety from crime.
40. Knowing that I could fall victim to crime makes me uncomfortable.
42. Crime makes me feel restless.

Though I didn't want to bias my analyses with expectations, I was anticipating more than one factor to emerge. In the earliest stages of analysis, I was anticipating three factors: emotion, affect, and concern. But, since the purpose of the EFA was to be an exploratory examination of the factor structure, I did not mold the data to fit any set of expectations.

The remaining items in the single factor suggest that the concept "fear of crime" includes feelings of fear, worry, anxiety, unpleasant affect, and vulnerability. The unidimensional result suggests that these words reflect the same underlying latent construct "fear of crime." The 10-item solution reflects sentiments expressed by interviewees and is a first step to accurately and parsimoniously measuring fear of crime.

Confirmatory Factor Analysis

Sample and Participants

The data collection procedure was identical to the first quantitative sample. Data were collected using Qualtrics Panels and the same eligibility criteria, attention check, and quotas were used.

There were 360 participants for the CFA. The mean age was 40.7 years ($SD = 14.3$). Almost half (47.4%) were men and 52.4% were women. One participant chose “other” for gender and wrote “non binary.” Most participants (66.5%) were White, followed by Black (16.9%), Latino (6.6%), other/mixed race (5.5%), Asian (2.8%), Native American (1.1%), and Middle Eastern (0.3%). Participants’ political affiliation was highly variable, with 33.8% being very liberal, liberal, or somewhat liberal; 36.8% being moderate; and 28.9% being very conservative, conservative, or somewhat conservative. Most participants (69.2%) were Christian, 19.7% were agnostic or atheist, 1.4% were Jewish, 0.8% were Muslim, 0.3% were Buddhist, and 8.6% selected “other.”

Method and Results

All analyses were done in R using the second quantitative sample ($N = 360$). I ran a one-factor CFA model with the 10 items that were extracted from the EFA. The one-factor model initially showed poor model fit according to some indices ($\chi^2 = 228.94, p < .001$; $RMSEA = .124$) but other indices were acceptable ($SRMR = .053$) or marginally acceptable ($CFI = .898$).

While the fit indices may suggest poor model fit according to Hu and Bentler’s (1999) cutoff values, McNeish and colleagues (2017) found that the cutoffs may not be an appropriate measure of model fit. They found that Hu and Bentler’s cutoffs tend to

indicate poor model fit when measurement quality is high. More specifically, an RMSEA value of .06 (considered acceptable) can indicate poor model fit when factor loadings are low (around .40), whereas an RMSEA value of .20 (considered unacceptable) can indicate good model fit when factor loadings are high (around .90). Similarly, Hancock and Mueller (2011) found that SRMR, RMSEA, and CFI values yield increasingly poor model fit as factor loadings increase. Specifically, once factor loadings reach a value above about .70, all three fit indices yield values below the conventionally acceptable cutoffs. McNeish and colleagues (2017) caution that fit indices depend on factor loadings similarly to how *p* values depend on sample size. Accordingly, they recommend that standardized factor loadings should be reported along with fit indices to give more context and make fit indices more interpretable. The CFA revealed that standardized factor loadings were high, ranging from .715 to .888. Given the high standardized factor loadings, acceptable SRMR value (.053), marginally acceptable CFI value (.898), and high Cronbach's alpha (.945), I retained the one-factor 10-item scale extracted from the EFA.

CHAPTER 5: QUANTITATIVE METHOD AND RESULTS

Quantitative Method

Sample and Participants

Before assessing convergent and divergent validity and conducting regression analyses, I combined both quantitative samples ($N = 305$ and $N = 360$) into a single sample. The two samples differ only by completion date: 305 participants were sampled November 19–21, 2019 and 360 participants were sampled December 6–9, 2019. Descriptive statistics for the full sample are presented below and in Table 2.

Table 2
Participant Demographics

Characteristic	<i>n</i>	%	Characteristic	<i>n</i>	%
Gender			Victim of crime		
Men	293	44.1%	No	321	48.3%
Women	370	55.6%	Yes	320	48.1%
Other	2	.03%	Unsure	24	3.6%
Race/ethnicity			Homeownership		
White	463	69.6%	Rent	326	49.0%
Hispanic/Latino	42	6.3%	Own	326	49.0%
Black/African American	101	15.2%	Other	13	2.0%
Middle eastern	1	0.2%	Political affiliation		
Asian	21	3.2%	Very liberal	58	8.7%
Native American	7	1.1%	Liberal	109	16.4%
Other/mixed race	29	4.4%	Somewhat liberal	43	6.5%
Education			Moderate	269	40.5%
Less than high school diploma	19	2.9%	Somewhat conservative	55	8.3%
High school diploma or GED	178	26.8%	Conservative	62	9.3%
Some college but no degree	198	29.8%	Very conservative	69	10.4%
Associate's degree	106	15.9%	Religious affiliation		
Bachelor's degree	110	16.5%	Agnostic	59	8.9%
Master's degree	41	6.2%	Atheist	54	8.1%
Doctorate/professional degree	13	2.0%	Buddhist	7	1.1%
Household income			Christian, Catholic	151	22.7%
Less than \$19,999	117	17.6%	Christian, Protestant	150	22.6%
\$20,000 to \$39,999	196	29.5%	Christian, other	166	25.0%
\$40,000 to \$59,999	141	21.2%	Jewish	11	1.7%
\$60,000 to \$79,999	83	12.5%	Muslim	8	1.2%
\$80,000 to \$99,999	41	6.2%	Other	58	8.7%
\$100,000 to \$119,999	33	5.0%	Neighborhood urbanicity		
\$120,000 to \$139,999	15	2.3%	Very rural	29	4.4%
\$140,000 to \$159,999	8	1.2%	Rural	138	20.8%
\$160,000 to \$179,999	9	1.4%	Suburban	274	41.2%
\$180,000 to \$199,999	2	0.3%	Urban	164	24.7%
\$200,000 or more	7	1.1%	Very urban	60	9.0%
Don't know	13	2.0%			

Note. N = 665. Mean age was 41.5 (SD = 14.8).

The final sample size was 665. The mean age was 41.5 years ($SD = 14.8$). The sample was 55.6% women and two participants (0.3%) chose “other” for gender. Most participants (69.6%) were White, followed by Black (15.2%), Latino (6.3%), other/mixed race (4.4%), Asian (3.2%), Native American (1.1%), and Middle Eastern (0.2%). There was considerable variability in urbanicity of participants’ neighborhoods. One-quarter (25.2%) of participants lived in rural or very rural areas, 41.2% lived in suburban areas, and 33.7% lived in urban or very urban areas. Half of participants (49.0%) own their homes and half of participants (48.1%) have been the victim of some type of crime.

Participants’ political affiliation was highly variable, with 31.6% being very liberal, liberal, or somewhat liberal; 40.5% being moderate; and 28.0% being very conservative, conservative, or somewhat conservative. Most participants (70.3%) were Christian, 17.0% were agnostic or atheist, 1.7% were Jewish, 1.2% were Muslim, 1.1% were Buddhist, and 8.7% selected “other” for religion. Almost one-third (29.8%) had completed some college, followed by high school diploma (26.8%), bachelor’s degree (16.5%), associate’s degree (5.9%), master’s degree (6.2%), less than high school diploma (2.9%), and doctorate or professional degree (2.0%).

Measures

In addition to my 10-item fear of crime scale, participants completed measures of other constructs. They completed Ferraro’s (1995) fear of crime scale; Cops’ (2013) fear of crime scale; Gau’s (2014) procedural justice and trust in the police scales; the negative emotionality subscale from the Big-5 Inventory of Personality–2 (Soto & John, 2017); Lipkus et al.’s (1996) belief in a just world scale; and Lester’s (1990) fear of death scale.

New Fear of Crime Measure

The new fear of crime measure has 10 items on a 6-point Likert scale. Response options were 1 = “very untrue for me,” 2 = “untrue for me,” 3 = “somewhat untrue for me,” 4 = “somewhat true for me,” 5 = “true for me,” and 6 = “very true for me.” There is scholarly debate over whether to offer participants a midpoint (i.e., a neutral option) on a survey, though evidence suggests that the inclusion or exclusion of a midpoint has little effect on the data (Dillman et al., 2014). I chose a 6-point scale without a midpoint because everyone should be able to form an opinion on each of the items. I computed a mean score for the scale. The internal consistency was $\alpha = .945$.

Previous Fear of Crime Measures

I included Ferraro’s (1995) 10-item fear of crime scale (see *Previous Measurement* and Appendix F) to assess convergent validity. I created three separate summary scores for the full scale (nine items), fear of property crime (four items), and fear of violent crime (four items). I excluded the item that asked about being approached by a panhandler from the property crime and violent crime subscales, which is consistent with Ferraro’s original methodology. I also completely excluded the item asking about car theft, since some participants may not have a car. The full scale (excluding car theft) yielded a Cronbach’s alpha of .952. The four-item violent crime scale yielded a Cronbach’s alpha of .950 and the four-item property crime scale yielded a Cronbach’s alpha of .897. My scale correlates with Ferraro’s full scale at .669 ($p < .01$), with the violent crime scale at .640 ($p < .01$), and with the property crime scale at .678 ($p < .01$). These high positive correlations indicate convergent validity.

I also included Cops' (2013) eight-item fear of crime scale with some revisions. Since some of his wording is leading, I adjusted the language to minimize the chances of acquiescence bias. Though I did not exactly replicate Cops' (2013) scale, the adjusted language yielded a better measure and thus a better comparison for convergent validity. See *Previous Measurement* for the original scale and Appendix G for the revised scale and response options. Consistent with his original method, I summed the eight items to create a score for Cops' scale. The Cronbach's alpha was .840. The correlation between my scale and Cops' scale is .718 ($p < .01$), which indicates convergent validity.

Global Procedural Justice and Trust in the Police

Gau's (2014) questionnaire measures both global procedural justice and police legitimacy. Global procedural justice refers to civilians' general perceptions of police officers' fairness and respect (Gau, 2014). Police legitimacy refers to perceptions of police as a legitimate authority (Sunshine & Tyler, 2003). I included the trust component of police legitimacy, which measures overall trust in the police, and both subscales of global procedural justice. I did not measure specific procedural justice as it requires at least one experience with direct police contact, which many participants may not have. Contact with police may influence fear of crime, but for participants who have had direct contact with the police, their experiences will likely influence their global perceptions of procedural justice (which I measured). Further, I did not measure obligation to obey police because it does not "combine well" (Gau, 2014, p. 203) with trust and, conceptually, it is minimally related to fear of crime.

Participants completed the four-item police legitimacy scale and the five-item global procedural justice scale on a 6-point Likert scale where 1 = "strongly disagree"

and 6 = “strongly agree.” I computed a mean of each scale separately to create scores for each construct. The police legitimacy scale yielded a Cronbach’s alpha of .922 and correlated with my scale at $r = .018$ ($p = .650$). The global procedural justice scale yielded an alpha of .946 and correlated with my scale at $r = -.016$ ($p = .676$). See Appendix H for scales and response options.

Negative Emotionality

Negative emotionality refers to one’s tendency to experience frequent and intense unpleasant affect (Soto & John, 2017). Specifically, Soto and John’s (2017) conceptualization of negative emotionality includes facets of anxiety, depression, and emotional volatility (i.e., mood swings). Soto and John (2017) developed the Big Five Inventory-2 (BFI-2) to refine the original five-factor personality measure. The negative emotionality scale is the renamed “neuroticism” factor from the original Big Five Inventory of Personality. They renamed the neuroticism factor to remove the clinical connotation, but the underlying latent construct remains the same. The negative emotionality scale of the BFI-2 has 12 items. See Appendix I for scale and response options.

Participants responded on a 6-point Likert scale where 1 = “very untrue for me” and 6 = “very true for me.” I computed a mean of all items to create a single score for the scale. The negative emotionality scale had an internal consistency of $\alpha = .896$. The correlation between my scale and the negative emotionality scale is $.444$ ($p < .01$). This moderate correlation indicates divergent validity.

Belief in a Just World

Lipkus and colleagues (1996) developed a scale to measure both BJW for oneself and for others; I only included the BJW–self scale, which has eight items. Participants responded on a 6-point Likert scale where 1 = “very untrue for me” and 6 = “very true for me.” See Appendix J for scale and response options. I summed each item to create a single score for the scale. The BJW–self scale had an alpha of .904.

Fear of Death

Lester (1990) developed a fear of death scale that has four major components: dying of self, death of self, dying of others, and death of others. I only included the dying of self and death of self scales. The two scales have a combined 15 items. I excluded two items that ask about disease and degeneration of old age since they are not general enough to relate to fear of crime. Participants responded on a 6-point Likert scale where 1 = “very untrue for me” and 6 = “very true for me.” See Appendix K for the items I included and response options.

I summed the two scales separately to create scores for each construct. The Cronbach’s alpha for the fear of death scale was .765 and for the fear of dying scale was .568. My scale correlates with the fear of death scale at .241 ($p < .01$) and with the fear of dying scale at .354 ($p < .01$). These low to medium positive correlations both indicate divergent validity.

Quantitative Results

All analyses were done in SPSS. All data met the assumptions for linear regression according to linearity, normality, and homoscedasticity. Table 3 shows

correlations among major study variables. My new fear of crime measure is significantly correlated with Cops' (2013) scale ($r = .718, p < .01$), Ferraro's (1995) scale ($r = .699, p < .01$), negative emotionality ($r = .444, p < .01$), and fear of death ($r = .241, p < .01$).

Table 3
Intercorrelations for Major Study Variables

Variable	1	2	3	4	5	6	7
1. New measure	—						
2. Cops (2013)	.718**	—					
3. Ferraro (1995)	.699**	.623**	—				
4. Global procedural justice	-.016	.053	-.008	—			
5. Trust in the police	.018	.082	.031	.848	—		
6. Negative emotionality	.444**	.319**	.428**	-.121**	-.129**	—	
7. Belief in a just world	-.054	-.029	-.090	.468**	.463**	-.434**	—
8. Fear of death	.241**	.164**	.235**	-.003	.004	.134**	-.043

To examine demographic predictors of fear of crime (RQ2), I regressed gender, age, and race on fear of crime, each in separate bivariate models (see Table 4). As expected, gender had a significant effect, with women feeling more fearful than men ($B = .507, \beta = .201, p < .001$). However, gender only accounted for 4.7% of the variance in fear of crime.

Table 4
Demographic Predictors of Fear of Crime

Variable	<i>B</i>	<i>SE B</i>	β	R^2
Gender ^a	.507***	.089	.201***	.047
Age	-.022***	.003	-.274***	.075
White	-.265***	.097	-.105***	.011
Black	.177	.025	.055	.003
Latino	.098	.185	.021	.000
Other race ^b	.379*	.159	.092*	.009

Note. Each row represents a separate bivariate model.

^a Woman = 1, man = 0.

^b Asian American, Middle Eastern, Native American, mixed race

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

Next, to address RQ5, I conducted a regression analysis with gender as a predictor of fear of crime, controlling for all other demographic characteristics (see Table 5). Gender remained a significant predictor of fear of crime ($B = .390$, $\beta = .166$, $p < .001$) after controlling for age, race, religion, political affiliation, income, education, having children, homeownership, urbanicity, and victimization. The full model accounts for 12.4% of the variance in fear of crime and added an additional 7.9% of variance ($p < .001$) over the gender-only model.

Table 5

Hierarchical Regression Model with Gender as a Predictor of Fear of Crime

Variable	<i>B</i>	<i>SE B</i>	β	R^2	ΔR^2
Model 1				.045	.045***
Gender ^a	.497***	.092	.212***		
Model 2				.124	.079***
Gender ^a	.390***	.096	.166***		
Age	-.018***	.003	-.227***		
Black ^b	.169	.132	.053		
Latino ^b	.080	.190	.017		
Other race ^b	.337*	.163	.082*		
Religion ^c	.188	.102	.073		
Political affiliation	-.010	.028	-.015		
Income	-.006	.025	-.010		
Education ^d	.129	.098	.055		
Parent ^e	-.020	.034	-.023		
Homeowner ^f	-.074	.098	-.032		
Urbanicity	-.034	.049	-.029		
Victim of crime ^g	.255**	.092	.109**		

^a Woman = 1, man = 0. ^b White is reference category. ^c Christian = 1, all other religious affiliations = 0. ^d associate's degree and above = 1, some college and below = 0. ^e Parent = 1, not a parent = 0. ^f Homeowner = 1, renter = 0. ^g Victim = 1, nonvictim = 0.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Age was the strongest predictor of fear of crime ($B = -.018, \beta = -.227, p < .001$), with younger people feeling more fearful of crime than older people. Gender significantly predicted fear of crime ($B = .390, \beta = .166, p < .001$), with women feeling more fearful than men. Victimization significantly predicted fear of crime ($B = .255, \beta = .109, p < .01$), with victims feeling more fearful than nonvictims. Other race was also a significant predictor ($B = .337, \beta = .082, p < .05$), with Asian, Middle Eastern, Native American, and other/mixed raced respondents feeling more fearful than White, Black, and Latino respondents. Religion, political affiliation, income, education, having children, homeownership, and urbanicity had no effect on fear of crime.

Also to address RQ5, I conducted a regression analysis with global procedural justice and BJW as predictors of fear of crime, each in separate models (see Table 6). Neither procedural justice ($B = -.015, \beta = -.016, p = .676$) nor BJW ($B = -.008, \beta = -.054, p = .168$) significantly predicted fear of crime. I ran separate models using BJW or procedural justice as the independent variable and all demographic characteristics as control variables. Since there is virtually no statistical association between fear of crime and either of these variables, the added control variables did not make a difference. (The model with control variables is not included here.)

Table 6

Linear Regressions with Predictors of Fear of Crime

Variable	B	$SE B$	β	R^2
Global procedural justice	-.015	.035	-.016	.000
Belief in a just world	-.008	.006	-.054	.003

Note. Each row represents a separate bivariate model.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Quantitative Discussion

Consistent with most fear of crime research, I found that women were more fearful of crime than men. Gender was a weaker predictor than expected, however, accounting for only 4.7% of the variance in fear of crime. As the second strongest predictor, gender clearly still has an important relationship with fear of crime, but the magnitude of this relationship appears to be weaker than researchers have assumed. The gender difference is consistent with the risk–fear paradox. I suspect that the gender difference in fear of crime is due to explanations posited by previous researchers. Specifically, it is possible that women have higher fear of crime because they perceive a higher risk of victimization or they are more sensitive to their perceived risk. However, since I did not measure perceived risk, I cannot test this explanation. The shadow of sexual assault hypothesis—which states that women’s high fear of rape increases their fear of all other crimes—is also possible. Fear of rape may explain away the gender differences in fear of crime, as Ferraro (1995) found, but that is beyond the scope of this dissertation.

There was a significant effect of victimization on fear of crime, with victims being more fearful. This is consistent with previous research. It is likely that once someone is victimized, they are afraid of being victimized again. It is possible that this relationship is mediated by perceived risk. That is, perhaps victims are more fearful because they estimate their risk of victimization to be higher than before.

There was also a significant effect of race on fear of crime. Most notably, White respondents had lower fear of crime than all other respondents. Those coded as “other race” had higher fear of crime than all other respondents. There was no race effect for

Black or Latino respondents. This finding is somewhat consistent with Collins' (2016) meta-analysis, in which she found differences between Whites and non-Whites, but no differences between different groups of non-Whites.

Racial disparities in fear of crime could be due to fear of hate crimes or fear of the police. However, this explanation cannot account for the lack of effect in Blacks and Latinos. Perhaps the effect is driven by Middle Eastern respondents due to discriminatory policies such as the Muslim Ban. Unfortunately, there were not enough respondents in the racial categories that were coded as "other race" (Asian American, Middle Eastern, Native American, and other/mixed race) to analyze them separately, so it is unclear which groups are driving this effect. Also, the effects are very small, accounting for only about 1% of the variance in fear of crime, so the race effects in this sample may not be meaningful.

Age was the strongest predictor of fear of crime, with younger people significantly more fearful than older people. This finding contests the notion that older adults are "prisoners of fear" (Ferraro, 1995, p. 67) hiding in their homes. Researchers have recognized since the 1980s that the age-fear relationship is complicated, yet many researchers and laypeople alike have continued to assume that older adults are debilitated by fear of crime. It is likely that age effects are exaggerated in common discourse due to stereotypes about older adults (Fattah & Sacco, 1989).

Most importantly for this study, some early studies (Ferraro, 1995; LaGrange & Ferraro, 1989) and a recent meta-analysis (Collins, 2016) concluded that age effects were due to measurement issues (see *Age*). This highlights the importance of the current research. My study systematically created a new self-report measure for fear of crime

grounded in people's own reports of their emotional experiences and my quantitative analyses unexpectedly revealed that younger adults are more fearful. Since the current study's measurement quality is higher than in previous studies, perhaps this study more accurately captures reality, which may be that younger adults are more fearful of crime than older adults.

Perhaps older adults feel generally more stable and secure, which could explain their lower fear of crime. Perhaps older adults' lower fear of crime is due to higher socioeconomic status or differences in neighborhood crime. It is also possible that older adults feel less afraid because their rates of victimization are lower. One of my interviewees, Nancy, 67, explained her low fear of crime by saying, "At a certain age you become a little bit more invisible." When considering the entire body of research on fear of crime, it is unclear why the findings on age are so varied. It is also possible that any effect of age is spurious.

The current study found that fear of crime has virtually no statistical relationship with BJW or procedural justice. Given the conceptual connection between perceptions of crime and perceptions of justice, I expected these variables to strongly and negatively correlate with fear of crime. Specifically, I expected that the more someone believes that the world is just, the lower their fear of crime would be because they think negative events only happen to people who deserve them (i.e., not randomly). However, the correlation coefficients (Table 3) indicate no shared variance and the regression coefficients (Table 6) indicate that no variance in fear of crime is accounted for by BJW or procedural justice. The lack of relationship between fear of crime and BJW suggests that someone can fear crime independently of whether or not they believe they deserve to

be victimized. The lack of relationship between fear of crime and procedural justice suggests that someone can fear crime independently of whether or not they believe the police will treat them with respect as a victim.

CHAPTER 6: GENERAL DISCUSSION AND CONCLUSION

General Discussion

The major research question I sought to answer with the current study was: “how do people experience fear of crime?” Qualitative results show that that fear of crime encompasses a variety of feelings including concern, worry, anxiety, nervousness, paranoia, panic, and unpleasant affect. Many interviewees did not distinguish between these feelings such as between fear, worry, and concern.

Another major research question was “are there demographic differences in fear of crime?” Quantitative results show that there are significant age, gender, and racial differences in fear of crime, though the racial differences are weak. I also asked if fear of crime was related to procedural justice or belief in a just world. Quantitative results show that fear of crime has virtually no relationship with perceptions of procedural justice or belief in a just world, but it is associated with negative emotionality, which suggests there are personality differences in fear of crime.

Theoretical Significance

I found that the threat of crime can lead to a variety of emotions. Interviewees described a variety of feelings when describing their fear of crime, suggesting that threat is subjective.

Fear of crime seems to be an abstract concept similar to fear of the unknown, fear of commitment, fear of success, or fear of missing out. That is, such a “fear” does not

necessarily involve a fight or flight reaction, but rather is a mental aversion that the perceiver has labeled “fear.” It is not reasonable to assume that a dispositional fear of commitment, for example, involves a specific chain reaction of physiology and brain activity—it is more a feeling of apprehension or “I don’t like it.” It is also not reasonable to assume that the “fear” of commitment is identical to the “fear” of spiders or that either of these is identical to the “fear” of crime.

One interviewee, Todd, summed this up by describing “different depths of fear.” He distinguished between “the fear that scares you so badly that you just freeze” and “the fear of a new job.” He also distinguished between “rollercoaster fear” and “danger fear.”

. . . danger fear you’re more— it’s more like adrenaline mixed with anxiety sort of feeling, you know. So. It’s not, it’s not like— like rollercoaster fear, you’re like ‘this is fun’ but yet you’re nervous, you’re scared, you’re feeling all those emotions rush through your body. Whereas danger fear, it’s— I mean your adrenaline, you can feel your adrenaline rushing, but it’s not the same. Like you’re— like in a dangerous situation you’re more aware.

The point here is that fear of crime is an emotion concept just like any other and that different kinds of fear have different experiences. The fear of a new job could involve nervousness, excitement, and eagerness; rollercoaster fear could involve nervousness, excitement, thrill, and joy; and danger fear (i.e., fear of crime) could involve anxiety and heightened awareness.

My interviewee Gina’s account of watching someone attempt to break into her car is a great example of how emotions regarding crime are constructed. She said, “I could feel my heart rate go up ‘cause I was so angry.” She first noticed the criminal, then felt

increased heartrate, then interpreted her increased heartrate to mean anger. She could have instead interpreted it to mean fear, but she did not. Earlier in her interview, Gina indicated that she is concerned with issues of fairness, morality, and justice. After describing her anger, she said, “he had no right to be snoopin’ in my car,” which could explain why she constructed anger. That is, during this event, perhaps she contextualized the attempted crime as an impediment to her goals of justice and fairness, which led to her feeling anger. If she contextualized the attempted crime as an impediment to her goal of safety, perhaps she would have felt fear instead.

Gina also described an incident in which she suspected someone was trying to break into her house while she was home. She described “general fear and being upset.” She elaborated: “I was afraid he was gonna get in, try to take some stuff . . . But I would be really, really unhappy with him being there, I’d want to hurt him or get him out, or yeah, basically wanna hurt him.”

Here, she described fear along with a motivation to hurt the offender. Her account details how crime can lead to a variety of emotions and actions. As described above, she felt anger toward someone trying to break into her car and chose to watch. Then, she felt fear from a potential burglar and was motivated to hurt him.

Tracing the Boundaries of Fear of Crime

Many researchers have attempted to define fear of crime, but none have used emotions theories or qualitative data to inform its definition. My qualitative results show that concern, unpleasant affect, worry, anxiety, nervousness, paranoia, and panic are all within the boundaries of fear of crime. Using these data, I present a new definition of fear of crime: the tendency to experience an affective and emotional response to the

possibility of crime or victimization that can include fear, anxiety, worry, nervousness, paranoia, panic, concern, uneasiness, and vulnerability. Earlier (see *Conceptual Gaps in the Literature*) I wondered if “concern about crime,” “worry about crime,” “anxiety about crime,” “stress about crime” or “crime sensitivity” were better names for “fear of crime.” Now, I understand each of these to be important components of the mental concept fear of crime.

The current study shows considerable evidence that fear of crime may be dispositional. There is a clear relationship between negative emotionality and fear of crime. Negative emotionality is the tendency to experience negative emotions such as sadness and anxiety (Soto & John, 2017), so it stands to reason that those higher in negative emotionality have a tendency to experience fear of crime. This is initially supported by the moderate correlation ($r = .444$) between negative emotionality and fear of crime. Fear of crime appears to be the *tendency* to experience fear in relation to crime. That there are personality differences in emotionality is not a new idea. As mentioned above (see *Trait Emotions*), Ekman’s (2016) survey of 149 top emotions researchers revealed that most (82%) agree that “specific personality traits are related in some way to specific emotions, such as fear to shyness” (p. 32).

Qualitative results also suggest that fear of crime is dispositional. As described above, Gina said that she is the type of person who notices issues of justice and she described anger toward a criminal because it was offensive to her. Her account indicates that she may have a disposition toward anger, not toward fear of crime. On the contrary, Franklin described his personality as anxious and indicated that it plays a role in his fear of crime: “I’m already kind of an anxious person with certain things. Right? Like that’s

my personality type, but when it comes to my kids' safety, that's like number one." He implied that his anxious personality fosters his fear of crime.

Individual differences in emotional granularity (see *Affect, Categorization, Concepts, and Language*) can also explain the dispositional nature of fear of crime. Many of my interviewees used words such as "fear," "worry," and "concern" interchangeably (see *Synonyms for Fear*). Interviewees who could not distinguish fear from anxiety, concern, or worry have lower emotional granularity than those who could. Those with higher emotional granularity have more concepts in their emotional repertoire that they can use to describe how they feel (Barrett, 2017b). That is, higher emotional granularity may foster more nuanced and complex feelings of fear of crime in a person. This is not to say that one's *level* of fear of crime depends on emotional granularity, but rather their specific *experience* of fear of crime. For those with low emotional granularity, fear of crime might involve feeling upset. For those with high emotional granularity, fear of crime might involve feeling anxious, apprehensive, suspicious, and vulnerable, which is much more nuanced (i.e., granular) than feeling upset. In this way, fear of crime can mean different things to different people.

Affect intensity is another individual difference that could influence fear of crime. People with higher affect intensity are more likely to perceive stimuli as relevant to their personal goals (Barrett, 2006b). So, a person with higher affect intensity may be more likely to interpret environmental stimuli (e.g., graffiti) as relevant to their goal of safety, whereas those with lower affect intensity may not see those stimuli as relevant. However, it is important to note that just because someone perceives a stimulus to be relevant to

their goals doesn't mean they are more likely to feel fear—just that they are more likely to feel affect, which could lead to any emotion.

The notion that fear of crime is related to personality is also consistent with the ideas of trait anxiety and trait fear. Given my finding that fear of crime encompasses anxiety, worry, nervousness and other feelings in addition to fear, I do not agree with an inherent distinction between trait anxiety and trait fear, as proposed by Sylvers and colleagues (2011), but I do agree that personality can include dispositions toward fear, anxiety, and related emotions. Research effort to distinguish trait anxiety from trait fear may be moot since many of my interviewees could not distinguish between anxiety and fear. Even the DSM-5 criteria for phobias support this conclusion. The criteria mention “fear, anxiety, or avoidance” (APA, 2013, p. 197). This suggests fear and anxiety are interchangeable in this context, which mirrors my qualitative findings. It is reasonable to conclude that fear of crime involves other feelings besides “fear,” including worry and anxiety, and that the tendency to fear crime varies from person to person.

Limitations

The most notable limitation to the current study is the qualitative sample. The measure was created from qualitative interview data from interviewees living in Reno, NV (with the exception of one participant living in Las Vegas, NV). Residents of Reno are not representative of the United States, because Reno is a relatively low-crime city and the sample was disproportionately White and educated. Also, a quarter of my qualitative sample were law enforcement officers. A more diverse lower-SES sample from a higher-crime city may have yielded different qualitative results, and thus a different item pool and a different resulting measure. It is possible that the current

measure will produce a ceiling effect for residents of high-crime areas, whereby most participants might score high on the measure due to insensitivity at the high end of the scale. That is, it is possible that people in a high-crime area would all score high on the current scale and scores would not reflect true variability within high-crime neighborhoods (Passmore et al., 2002).

Interviewees were not paid for their participation. People who agreed to participate were incentivized only by their interest in the topic. If I had paid interviewees, perhaps I could have recruited a more diverse sample, especially with regard to socioeconomic status.

As with any fear of crime study, those who are most afraid of crime are probably the least likely to participate. In other words, those who are most suspicious of harm from strangers are least likely to agree to meet a stranger in an unfamiliar location to talk about crime. For example, when I advertised the study on nextdoor.com, someone commented, “Is it just me, or does this sound like a scam?” I messaged this person directly to further explain the study and encourage participation, but he did not respond. In this way, people who are the most fearful of crime are virtually unreachable.

An unavoidable limitation of the current study is that measurement of emotion is inherently imprecise. As Barrett (2006a) noted, “empirical evidence suggests that it is difficult, if not impossible, to find an objective means of measuring the experience of emotion” (p. 22). Emotions are difficult to define and difficult to measure. Since my results show that neither fear nor fear of crime is something that exists objectively in nature, fear of crime cannot be measured objectively. I can confidently say that my fear of crime scale was developed with the most rigorous methodology of any fear of crime

scale. But, because it attempts to measure emotional experience, it is inherently imperfect. Further, individual differences in emotional granularity suggest that fear of crime means different things for different people, which makes scale development even more difficult.

Another notable limitation was that the CFA model showed poor model fit according to Hu and Bentler's (1999) cutoffs for Chi-square and RMSEA values. Values outside of Hu and Bentler's thresholds are typically agreed upon to indicate that the model is not suitable for explaining variance in the data. However, more recent research (Hancock & Mueller, 2011; McNeish et al., 2017) suggests that these conventionally accepted cutoff values are not valid indicators of model fit. As described above (see *Confirmatory Factor Analysis*), McNeish and colleagues (2017) found that higher measurement quality actually yields poorer model fit according to these cutoffs. Specifically, conventionally unacceptable RMSEA values actually indicate good fit when factor loadings are high. Similarly, Hancock and Mueller (2011) found that Hu and Bentler's cutoff values yield increasingly poor model fit as factor loadings increase. If Hu and Bentler's cutoffs are not actually measures of model fit, how should researchers decide if their model fits their data?

Given the high standardized factor loadings (ranging from .715 to .888), high Cronbach's alpha (.945), convergent and divergent validity, and theoretical foundation, I chose to retain the 10-item factor extracted from the EFA. My newly developed scale is the first of its kind in many ways (to my knowledge). First, it is the first fear of crime scale to be created systematically from people's qualitative reports of their emotional experiences. Second, it is the first fear of crime scale to pretest items with cognitive

interviews and expert review. Third, it is the first fear of crime scale that is informed by emotion theory. Finally, it is the first to show evidence of convergent and divergent validation. Despite the CFA model not adhering to Hu and Bentler's cutoffs, such careful scale development and psychometric validation is a first for fear of crime research.

Conclusion

The first major purpose of the current study was to reconceptualize fear of crime according to reports from qualitative interviews. The second major purpose was to develop a measurement instrument for fear of crime using this new conceptualization. The current study makes significant theoretical, conceptual, methodological, and empirical contributions to fear of crime research.

Theoretically, this study introduced two emotions theories to the study of fear of crime: the basic emotions perspective and the theory of constructed emotion. According to qualitative interviews, fear of crime encompasses many feelings including concern, unpleasant affect, worry, anxiety, paranoia, and panic. These findings will allow future research to further build theory on fear of crime.

Conceptually, this study shows some support for Garofalo's (1981) and Ferraro's (1995) definitions of fear of crime. As mentioned above (see *Situational Fear of Crime*), Garofalo (1981) defined fear of crime as "an emotional reaction characterized by a sense of danger and anxiety . . . produced by the threat of physical harm" (p. 840) and Ferraro (1995) defined it as "an emotional response of dread or anxiety to crime or symbols that a person associates with crime" (p. 4). My qualitative results support the notion that danger, anxiety, and dread are all conceptually relevant to fear of crime. However, these definitions cannot account for dispositional fear of crime (i.e., the *tendency* to feel fear of

crime), which was a major finding of this study. Specifically, as I mentioned above (see *General Discussion*), I posit that fear of crime is the tendency to experience an affective and emotional response to the possibility of crime or victimization that can include fear, anxiety, worry, nervousness, paranoia, panic, concern, uneasiness, and vulnerability.

Methodologically, the current study introduced a new self-report scale to measure fear of crime in the general population. My new measurement followed Ferraro and LaGrange's early (1987) recommendations (see *Improving Measurement*). They urged researchers to measure the emotional component of fear of crime (as opposed to perceived risk or behavior), ask participants specifically about crime, and ask participants about their everyday life (instead of hypothetical situations). This study was the first to apply emotion theories and use qualitative data to create a fear of crime scale. The qualitative interviews led to the above conceptualization of fear of crime, which served as the foundation for creating the measure. The newly developed one-factor, 10-item scale captures the range of feelings and emotions involved in the fear of crime including concern, worry, anxiety, and paranoia. There are several advantages of using my newly developed scale over previous scales.

First, my scale was created using qualitative interview data and thus is grounded in the lived experience of fear of crime. Second, I used two emotions theories to guide the creation of the scale. These two methodological choices allowed the scale to capture the experiential qualities of fear of crime. In addition, in my sample, the scale had high internal consistency, convergent validity, and divergent validity.

Empirically, I found substantial evidence that fear of crime is dispositional, like a personality characteristic. Understanding individual differences in emotionality and fear

of crime is important for many areas of criminological and criminal justice research. The current study can inform how emotions affect policing (such as an officer's fear during a traffic stop), courts (such as the well-known influence of affect on judges' decisions; Danziger et al., 2011), and responses to victimization (such as coping strategies). The construction of emotion means that people have a surprising amount of control over the emotions they feel. If a police officer feels fear when a Black motorist reaches for his registration, the fear didn't *happen to* the officer, it was *constructed by* the officer. However, just as emotions are constructed, they can be *reconstructed* with introspection and cognitive effort. Knowing that we are responsible for our own emotions makes me optimistic for the future of emotions' role in the criminal justice system. The influence of affect and fear on personal and interpersonal outcomes is not inevitable and could actually be a point of intervention.

Future Research

The current study is a first step, not a last step, in developing a high-quality measurement instrument for fear of crime. Future research should extend the current project, especially to remedy its major limitations. As mentioned above, a major limitation of the current study was that the scale was developed using a mostly white, educated sample from a lower-crime area, which could yield ceiling effects with a more diverse sample from a higher-crime area. A fruitful avenue for future research would be to address this limitation with a more diverse qualitative sample, which would be more representative of the US. It is possible, however, that a more diverse sample would impact the validity and reliability of the scale, since psychometrics of a scale are dependent upon a given sample.

Ideally, future research would recruit interviewees nationwide and would oversample minority respondents to allow for more nuanced examination of racial differences in fear of crime. A larger budget would allow for interviews in a variety of US towns and cities with differing crime rates. Perhaps more practically, future research could replicate the current study in a comparable city with a higher crime rate. This would allow for a qualitative comparison of emotions related to crime in cities that have different experiences with crime.

Since the current fear of crime scale has been validated, a logical next step would be to directly compare it with previous fear of crime scales. The correlation between the current scale and the two previous scales was high, which indicates convergent validity, but no other statistical comparisons were made. Since research has found high variability in results depending on the measurement used (Collins, 2016; LaGrange & Ferraro, 1989), it is important to compare models using different measures.

Future research should examine predictors of fear of crime that were not explored in this study. Negative emotionality had the highest correlation with fear of crime of any variable in the study. A fruitful line of research could investigate the relationship between personality characteristics and fear of crime. Future studies should also examine interactions between predictors of fear of crime. It would be valuable to make interaction terms with the strongest predictors. Since gender, age, and victimization all significantly predicted fear of crime, testing the interactions between these variables is warranted. For example, perhaps the relationship between victimization and fear of crime varies by gender or age.

Lastly, future research should examine fear of crime as a predictor. As mentioned above (see *Effects of Fear of Crime in the US*), fear of crime has profound effects at the individual, neighborhood, and national levels. For individuals, fear of crime is associated with poor health (Cossman et al., 2016; Etopio et al., 2019; Hill et al., 2016; Stafford et al., 2007). For neighborhoods, fear of crime can influence resource allocation and can perpetuate the cycle of poverty (Sampson, 2012; Skogan, 1986). For the nation, fear of crime can shift priorities toward alleviating fear, sometimes at the expense of other national programs. The new fear of crime measure will allow researchers to more accurately examine the far-reaching effects of fear of crime. The current study is a first step toward a renewed understanding of the ways that crime and fear of crime impact our world.

References

- Ackah, Y. (2000). Fear of crime among an immigrant population in the Washington, DC metropolitan area. *Journal of Black Studies, 30*(4), 553–573.
doi:10.1177/002193470003000405.
- Agnew, R. S. (1985). Neutralizing the impact of crime. *Criminal Justice and Behavior, 12*(2), 221–239.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.): *DSM-5*. American Psychiatric Association.
- Barr, P. (2012). A dyadic analysis of negative emotion personality predisposition effects with psychological distress in neonatal intensive care unit parents. *Psychological Trauma: Theory, Research, Practice, and Policy, 4*(4), 347–355.
doi:10.1037/a0024228
- Barrett, L. F. (2006a). Solving the emotion paradox: Categorization and the experience of emotion. *Personality and Social Psychology Review, 10*(1), 20–46.
- Barrett, L. F. (2006b). Valence is a basic building block of emotional life. *Journal of Research in Personality, 40*, 35–55. doi:10.1016/j.jrp.2005.08.006
- Barret, L. F. (2017a). Functionalism cannot save the classical view of emotion. *Social Cognitive and Affective Neuroscience, 12*(1), 34–36. doi:10.1093/scan/nsw156.
- Barrett, L. F. (2017b). *How emotions are made: The secret life of the brain*. Mariner.
- Barrett, L. F., & Bliss-Moreau, E. (2009). Affect as a psychological primitive. *Advances in Experimental Social Psychology, 41*, 167–218. doi:10.1016/S0065-2601(08)00404-8
- Bursik Jr, R. J., & Grasmick, H. G. (1993). *Neighborhoods & crime*. Lexington.

- Bursik Jr, R. J., & Webb, J. (1982). Community change and patterns of delinquency. *American Journal of Sociology*, 88(1), 24–42.
- Cacioppo, J. T., Berntson, G. G., Larsen, J. T., Poehlmann, K. M., & Ito, T. A. (2000). The psychophysiology of emotion. In R. Lewis & J. M. Haviland-Jones (Eds.), *The handbook of emotion* (2nd ed., pp. 173–191). Guilford.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2), 81–105.
- Chadee, D. A., Virgil, N. J., & Ditton, J. (2008). State-trait anxiety and fear of crime: A social psychological perspective. In S. Farrall and M. Lee (Eds.), *Fear of crime: Critical voices in an age of anxiety* (pp. 168–187). New York, NY: Routledge-Cavendish.
- Charmaz, K. (2014). *Constructing grounded theory*. Sage.
- Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7(3), 309–319.
- Clemente, F., & Klieman, M. B. (1977). Fear of crime in the United States: A multivariate analysis. *Social Forces*, 56(2), 519–531.
- Collins, R. E. (2016). Addressing the inconsistencies in fear of crime research: A meta-analytic review. *Journal of Criminal Justice*, 47, 21–31.
<http://dx.doi.org/10.1016/j.jcrimjus.2016.06.004>
- Cops, D. (2013). The role of autonomous mobility in public space on fear of crime among adolescents. *Journal of Youth Studies*, 16(8), 1105–1122.
doi:10.1080/13676261.2013.793790.

- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage.
- Cossmann, J. S., Porter, J. R., & Rader, N. E. (2016). Examining the effects of health in explaining fear of crime: A multi-dimensional and multi-level analysis. *American Journal of Criminal Justice*, *41*, 565–582. doi:10.1007/s12103-015-9310-x
- Covington, J., & Taylor, R. B. (1991). Fear of crime in urban residential neighborhoods: Implications of between- and within-neighborhood sources for current models. *The Sociological Quarterly*, *32*(2), 231–249.
- Crank, J. P., Irlbeck, D. M., & Giacopazzi, A. L. (2012). A risk-based model of public perceptions of crime and disorder. *Criminal Justice Studies*, *25*(2), 131–144. <http://doi.org/10.1080/1478601X.2012.699732>.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Sage.
- Danziger, S., Levav, J., & Avnaim-Pesso, L. (2011). Extraneous factors in judicial decisions. *Proceedings of the National Academy of Sciences*, *108*(17), 6889–6892.
- Davis, A. (2016, April 6). *In U.S., concern about crime climbs to 15-year high*. Gallup. <http://news.gallup.com/poll/190475/americans-concern-crime-climbs-year-high.aspx>.
- Davis, M., Walker, D. L., Miles, L. & Grillon, C. (2010). Phasic vs sustained fear in rats and humans: Role of the extended amygdala in fear vs anxiety. *Neuropsychopharmacology*, *35*, 105–135.

- Dawis, R. V. (1987). Scale construction. *Journal of Counseling Psychology, 34*(4), 481–489.
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method*. Wiley.
- Donohue, J. J. (2017). Comey, Trump, and the puzzling pattern of crime in 2015 and beyond. *Columbia Law Review, 117*(5), 1297–1354.
- Dull, R. T., & Wint, A. V. N. (1997). Criminal victimization and its effect on fear of crime and justice attitudes. *Journal of Interpersonal Violence, 12*(5), 748–758.
- Dutton, D. G., & Aron, A. P. (1974). Some evidence for heightened sexual attraction under conditions of high anxiety. *Journal of Personality and Social Psychology, 30*(4), 510–517.
- Ekman, P. (1999). Basic emotion. In T. Dalgleish and M. Power (Eds.), *Handbook of cognition and emotion* (pp. 45–61). John Wiley & Sons.
- Ekman, P. (2003). *Emotions revealed*. Times Books.
- Ekman, P. (2016). What scientists who study emotion agree about. *Perspectives on Psychological Science, 11*(1), 31–34. doi:10.1177/1745691615596992
- Ekman, P., & Cordaro, D. (2011). What is meant by calling emotions basic. *Emotion Review, 3*(4), 364–370. doi:10.1177/1754073911410740
- Ekman, P., & Friesen, W. V. (1971). Constants across cultures in the face and emotion. *Journal of Personality and Social Psychology, 17*(2), 124–129.
- Ekman, P., Sorenson, E. R., & Friesen, W. V. (1969). Pan-cultural elements in facial displays of emotion. *Science, 164*, 86–88.
- Etopio, A. L., Devereux, P., & Crowder, M. (2019). Perceived campus safety as a

- mediator of the link between gender and mental health in a national US college sample. *Women & Health*, 59(7), 703–717. doi:10.1080/03630242.2018.1549646
- Elwood, L. S., Wolitzky-Taylor, K., & Olatunji, B. O. (2012). Measurement of anxious traits: A contemporary review and synthesis. *Anxiety, Stress, & Coping*, 25(6), 647–666. <http://dx.doi.org/10.1080/10615806.2011.582949>
- Epstein, S. (1972). The nature of anxiety with emphasis upon its relationship to expectancy. In C. D. Spielberger (Ed.), *Anxiety: Current trends in theory and research* (Vol. 2, pp. 291–337). Academic Press.
- Farley, R. (2015, November 23). *Trump retweets bogus crime graphic*. Factcheck.org. <https://www.factcheck.org/2015/11/trump-retweets-bogus-crime-graphic/>
- Fattah, E. A., & Sacco, V. F. (1989). *Crime and victimization of the elderly*. Springer-Verlag.
- Federal Bureau of Investigation. (2016). *Table 1: Crime in the United States by volume and rate per 100,000 inhabitants, 1997–2016*. <https://ucr.fbi.gov/crime-in-the-u.s/2016/crime-in-the-u.s.-2016/tables/table-1>.
- Ferguson, K. M., & Mindel, C. H. (2007). Modeling fear of crime in Dallas neighborhoods: A test of social capital theory. *Crime & Delinquency*, 53(2), 322–349. doi:10.1177/0011128705285039
- Ferraro, K. F. (1995). *Fear of crime: Interpreting victimization risk*. State University of New York.
- Ferraro, K. F., & LaGrange, R. L. (1987). The measurement of fear of crime. *Sociological Inquiry*, 57, 70–101.
- Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th Ed.). Sage.

- Figgie, H. E. (1980). *The Figgie report on fear of crime: America afraid. Part 1: The general public*. A-T-O Inc.
- Fischer, A. H., & Manstead, A. S. R. (2008). Social functions of emotion. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 456–468). New York, NY: Guilford.
- Fox, K. A., Nobles, M. R., & Piquero, A. R. (2009). Gender, crime victimization and fear of crime. *Security Journal*, 22(1), 24–39.
- Fox, J. A., & Zawitz, M. W. (2010). *Homicide trends in the United States*. Bureau of Justice Statistics. <https://www.bjs.gov/content/pub/pdf/htius.pdf>.
- Franklin, T. W., Franklin, C. A., & Fearn, N. E. A multilevel analysis of the vulnerability, disorder, and social integration models of fear of crime. *Social Justice Research*, 21, 204–227. doi:10.1007/s11211-008-0069-9
- Gabriel, U., & Greve, W. (2003). The psychology of fear of crime: Conceptual and methodological perspectives. *British Journal of Criminology*, 43, 600–614.
- Garofalo, J. (1977). Public opinion about crime: The attitudes of victims and nonvictims in selected cities. Criminal Justice Research Center.
- Garofalo, J. (1979). Victimization and the fear of crime. *Journal of Research in Crime and Delinquency*, 16, 80–97.
- Garofalo, J. (1981). Fear of crime: Causes and consequences. *Journal of Criminal Law and Criminology*, 72(2), 839–857.
- Gau, J. M. (2014). Procedural justice and police legitimacy: A test of measurement and structure. *American Journal of Criminal Justice*, 39, 187–205. doi:10.1007/s12103-013-9220-8

- Gau, J. M., Corsaro, N., & Brunson, R. K. (2014). Revisiting broken windows theory: A test of the mediation impact of social mechanisms on the disorder–fear relationship. *Journal of Criminal Justice, 42*(6), 579–588.
<http://doi.org/10.1016/j.jcrimjus.2014.10.002>.
- George, J., Mackinnon, A., Kong, D. C. M., & Stewart, K. (2006). Development and validation of the Beliefs and Behaviour Questionnaire (BBQ). *Patient Education and Counseling, 64*, 50–60. doi:10.1016/j.pec.2005.11.010
- Gibson, C. L., Zhao, J., Lovrich, N. P., & Gaffney, M. J. (2002). Social integration, individual perceptions of collective efficacy, and fear of crime in three cities. *Justice Quarterly, 19*(3), 537–564.
- Goodwin, J. & Horowitz, R. (2002). Introduction: The methodological strengths and dilemmas of qualitative sociology. *Qualitative Sociology, 25*(1), 33–47.
- Gouseti, I., & Jackson, J. (2016). Construal-level theory and fear of crime. In D. Chadee (Ed.), *Psychology of fear, crime and the media: International perspectives* (pp. 22–39). Routledge.
- Gray, E., Jackson, J., & Farrall, S. (2011). Feelings and functions in the fear of crime: Applying a new approach to victimization insecurity. *The British Journal of Criminology, 51*, 75–94. doi:10.1093/bjc/azq066.
- Groves, R. M., Fowler, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2009). *Survey methodology* (2nd ed.). John Wiley & Sons.
- Grubb, J. A., & Bouffard, L. A. (2015). The influence of direct and indirect juvenile victimization experiences on adult victimization and fear of crime. *Journal of Interpersonal Violence, 30*(18), 3151–3173. doi:10.1177/0886260514554423

- Hafer, C. L., & Begue, L. (2005). Experimental research on just-world theory: Problems, developments, and future challenges. *Psychological Bulletin, 131*, 128–167.
doi:10.1037/0033-2909.131.1.128.
- Hafer, C. L. & Rubel, A. N. (2015). The why and how of defending belief in a just world. *Advances in Experimental Social Psychology, 51*, 41-96.
doi:10.1016/bs.aesp.2014.09.001
- Hale, C. (1996). Fear of crime: A review of the literature. *International Review of Victimology, 4*, 79–150.
- Henson, B., & Reyns, B. W. (2015). The only thing we have to fear is fear itself. . . and crime: The current state of the fear of crime literature and where it should go next. *Sociology Compass, 9*(2), 91–103. doi:10.1111/soc4.12240
- Hesse-Biber, S. G. (2017). *The practice of qualitative research* (3rd ed.). Sage.
- Hill, T. D., Trinh, H. N., Wen, M., & Hale, L. (2016). Perceived neighborhood safety and sleep quality: A global analysis of six countries. *Sleep Medicine, 18*, 56–60.
- Hinkin, T. R., Tracey, J. B., & Enz, C. A. (1997). Scale construction: Developing reliable and valid measurement instruments. *Journal of Hospitality & Tourism Research, 21*(1), 100–120. doi:10.1177/109634809702100108.
- Hinkle, J. C. (2015). Emotional fear of crime vs. perceived safety and risk: Implications for measuring fear and testing the broken windows thesis. *American Journal of Criminal Justice, 40*(1), 147–168. <http://doi.org/10.1007/s12103-014-9243-9>.
- Hites, L. S., Fifolt, M., Beck, H., Su, W., Kerbawy, S., Wakelee, J., & Nassel, A. (2013). A geospatial mixed methods approach to assessing campus safety. *Evaluation Quarterly, 37*(5), 347–369. <http://doi.org/10.1177/0193841X13509815>.

- Hollis, M. E., Felson, M., & Welsh, B. C. (2013). The capable guardian in routine activities theory: A theoretical and conceptual reappraisal. *Crime Prevention and Community Safety*, 15, 65–79.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55.
- Huddy, L., Feldman, S., Lahav, G., & Taber, C. (2003). Fear and terrorism: Psychological reactions to 9/11. In P. Norris, M. Kern & M. Just (Eds.), *Framing terrorism: The news media, the government and the public* (pp. 255–278). Routledge.
- Izard, C. E. (1977). *Human emotions*. Springer.
- Jackson, J. (2009). A psychological perspective on vulnerability in the fear of crime. *Psychology, Crime, & Law*, 15(4), 365–390. doi:10.1080/10683160802275797
- Janoff-Bulman, R. (1989). Assumptive worlds and the stress of traumatic events: Applications of the schema construct. *Social Cognition*, 7(2), 113-136. doi:10.1521/soco.1989.7.2.113.
- Kappe, C., Greve, W., & Hellmers, S. (2013). Fear of crime in old age: Precautious behaviour and its relation to situational fear. *European Journal of Ageing*, 10, 111–125. doi:10.1007/s10433-012-0255-3
- Kelly, B. T., & Torres, A. (2006). Campus safety: Perceptions and experiences of women students. *Journal of College Student Development*, 47(1), 20–36.
- Killias, M., & Clerici, C. (2000). Different measures of vulnerability in their relation to different dimensions of fear of crime. *The British Journal of Criminology*, 40(3),

437–450.

- LaGrange, R. L., & Ferraro, K. F. (1989). Addressing age and gender differences in perceived risk and fear of crime. *Criminology*, *27*(4), 697–719.
- Lee, G. R. (1982). Sex differences in fear of crime among older people. *Research on Aging*, *4*(3), 284–298. doi:10.1177/0164027582004003001.
- Lee, M. Y. H. (2016, November 3). *Trump’s false claim that the murder rate is the ‘highest it’s been in 45 years.’* Washington Post.
https://www.washingtonpost.com/news/fact-checker/wp/2016/11/03/trumps-false-claim-that-the-murder-rate-is-the-highest-its-been-in-45-years/?utm_term=.798ae7746379.
- Lejeune, R., & Alex, N. (1973). On being mugged: The event and its aftermath. *Urban Life and Culture*, *2*(3), 259–287.
- Lerner, M. J. (1980). *The belief in a just world: A fundamental delusion*. Springer.
- Lerner, M. J., & Simmons, C. H. (1966). Observer’s reaction to the ‘innocent victim’: Compassion or rejection? *Journal of Personality and Social Psychology*, *4*(2), 203–210. doi:10.1037/h0023562
- Lester, D. (1990). The Collett-Lester fear of death scale: The original version and a revision. *Death Studies*, *14*(5), 451–468. doi:10.1080/07481189008252385
- Lipkus, I. M., Dalbert, C., & Siegler, I. C. (1996). The importance of distinguishing the belief in a just world for self versus others: Implications for psychological well-being. *Personality and Social Psychology Bulletin*, *22*(7), 666–677.
- Liska, A. E., Lawrence, J., & Sanchirico, A. (1982). Fear of crime as a social fact. *Social Forces*, *60*, 760–770.

- Lorenc, T., Petticrew, M., Whitehead, M., Neary, D., Clayton, S., Wright, K., . . . Renton, A. (2013). Fear of crime and the environment: Systematic review of UK qualitative evidence. *BMC Public Health, 13*, 496–504. doi:10.1186/1471-2458-13-496
- Lupton, D., & Tulloch, J. (1999). Theorizing fear of crime: Beyond the rational/irrational opposition. *British Journal of Sociology, 50*(3), 507–523.
- Maguire, K., & Pastore, A. (1995). *Sourcebook of criminal justice statistics*. US Bureau of Justice Statistics.
- Malatesta, C. Z., & Wilson, A. (1988). Emotion cognition interaction in personality development: A discrete emotions, functionalist analysis. *British Journal of Social Psychology, 27*, 91–112.
- Marzbalia, M. H., Abdullaha, A., Razakb, N. A., & Tilaki, M. J. M. (2012). The influence of crime prevention through environmental design on victimisation and fear of crime. *Journal of Environmental Psychology, 32*, 79–88. doi:10.1016/j.jenvp.2011.12.005.
- McCarthy, J. (2015, October 22). *More Americans say crime is rising in US*. Gallop. <http://news.gallup.com/poll/186308/americans-say-crime-rising.aspx>.
- McGarrell, E. F., Giacomazzi, A. L., & Thurman, Q. C. (1997). Neighborhood disorder, integration, and the fear of crime. *Justice Quarterly, 14*(3), 479–500.
- McNeish, D., An, J., & Hancock, G. R. (2017). The thorny relation between measurement quality and fit index cutoffs in latent variable models. *Journal of Personality Assessment, 100*(1), 43–52. <https://doi.org/10.1080/00223891.2017.1281286>

- McPherson, M. (1978). Realities and perceptions of crime at the neighborhood level. *Victimology*, 3(3/4), 319–328.
- Merry, S. E. (1981). *Urban danger: Life in a neighborhood of strangers*. Temple University Press.
- Mesman, J., Oster, H., & Camras, L. (2012). Parental sensitivity to infant distress: What do discrete negative emotions have to do with it? *Attachment & Human Development*, 14(4), 337–348. doi:10.1080/14616734.2012.691649.
- Montemayor, S. (2017, July 17). *Attorney General Jeff Sessions says Trump administration will crack down on violent crime, immigration: He points to trends in the Twin Cities, saying “this is not a blip.”* Star Tribune.
<http://www.startribune.com/attorney-general-tells-minneapolis-audience-trump-administration-will-crack-down-on-violent-crime-immigration/435002213/>
- National Opinion Research Center. (2018). *Trends: Afraid to walk at night in neighborhood*.
<https://gssdataexplorer.norc.org/trends/Civil%20Liberties?measure=fear>
- Newport, F. (2017, November 2). *Americans’ fear of walking alone ties 52-year low*. Gallop. https://news.gallup.com/poll/221183/americans-fear-walking-alone-ties-year-low.aspx?g_source=link_NEWSV9&g_medium=tile_2&g_campaign=item_1603&g_content=Americans%27%2520Fear%2520of%2520Walking%2520Alone%2520Ties%252052-Year%2520Low.
- Nixon, R. (2018, September 12). *\$10 million from FEMA diverted to pay for immigration detention centers, document shows*. New York Times.

<https://www.nytimes.com/2018/09/12/us/politics/fema-ice-immigration-detention.html>

Oh, J-H., & Kim, S. (2009). Aging, neighborhood attachment, and fear of crime: Testing reciprocal effects. *Journal of Community Psychology, 37*(1), 21–40.

doi:10.1002/jcop.20269

Öhman, A. (2008). Fear and anxiety: Overlaps and dissociations. In M. Lewis, J. M.

Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of Emotions* (3rd ed., pp. 709–729). Guilford.

Öhman, A., & Mineka, S. (2001). Fears, phobias, and preparedness: Toward an evolved module of fear and fear learning. *Psychological Review, 108*(3), 483–522.

Ousey, G. C., & Kubrin, C. E. (2018). Immigration and crime: Assessing a contentious issue. *Annual Review of Criminology, 1*, 63–84. <https://doi.org/10.1146/annurev-criminol-032317-092026>

Pain, R. (2000). Place, social relations and the fear of crime: A review. *Progress in Human Geography, 24*(3), 365–387.

Passmore, C. Dobbie, A. E., Parchman, M., & Tysinger, J. (2002). Guidelines for constructing a survey. *Family Medicine, 34*(4), 281–286.

Pearson, A. L., Breetzke, G., & Ivory, V. (2015). The effect of neighborhood recorded crime on fear: Does neighborhood social context matter? *American Journal of Community Psychology, 56*, 170–179. doi:10.1007/s10464-015-9741-z

Phelan, J. E., Sanchez, D. T., & Broccoli, T. L. (2010). The danger in sexism: The links among fear of crime, benevolent sexism, and well-being. *Sex Roles, 62*, 35–47. doi:10.1007/s11199-009-9711-8.

- Phillips, T., & Smith, P. (2004). Emotional and behavioural responses to everyday incivility: Challenging the fear/avoidance paradigm. *Journal of Sociology*, *40*(4), 378–399. doi:10.1177/1440783304048382
- Poveda, T. G. (1972). The fear of crime in a small town. *Crime and Delinquency*, *April*, 147–153.
- Rader, N. E. (2010). Until death do us part? Husband perceptions and responses to fear of crime. *Deviant Behavior*, *31*, 33–59. doi:10.1080/01639620902854704
- Rader, N. E., Cossman, J. S., & Allison, M. (2009). Considering the gendered nature of constrained behavior practices among male and female college students. *Journal of Contemporary Criminal Justice*, *25*(3), 282–299. doi:10.1177/1043986209335015.
- Rader, N. E., Cossman, J. S., & Porter, J. R. (2012). Fear of crime and vulnerability: Using a national sample of Americans to examine two competing paradigms. *Journal of Criminal Justice*, *40*, 134–141. doi:10.1016/j.jcrimjus.2012.02.003
- Roberts, J. V., & Stalans, L. J. (2000). *Public opinion, crime, and criminal justice*. Westview.
- Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative Research in Psychology*, *11*, 25–41. doi:10.1080/14780887.2013.801543.
- Roseman, I. J., & Smith, C. A. (2001). Appraisal theory: Overview, assumptions, varieties, controversies. In K. S. Scherer, A. Schoor, & T. Johnstone (Eds.), *Appraisal processes in emotion: Theory, methods, research* (pp. 3–19). Oxford University.

- Ross, C. E., & Mirowsky, J. (2001). Neighborhood disadvantage, disorder, and health. *Journal of Health and Social Behavior, 42*(3), 258–276.
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology, 39*(6), 1161–1178.
- Russo, S., & Roccato, M. (2010). How long does victimization foster fear of crime? A longitudinal study. *Journal of Community Psychology, 38*(8), 960–974.
doi:10.1002/jcop.20408
- Sampson, R. J. (2008). Rethinking crime and immigration. *Contexts, 7*(1), 28-33.
doi:10.1525/ctx.2008.7.1.28.
- Sampson, R. J. (2012). *Great American city: Chicago and the enduring neighborhood effect*. Chicago, IL: University of Chicago.
- Sampson, R. J. (2014). Collective efficacy theory: Lessons learned and directions for future inquiry. In T. L. Anderson (Ed.), *Understanding deviance: Connecting classical and contemporary perspectives* (pp. 128-139). Routledge, Taylor, & Francis Group.
- Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science, 277*, 918-924.
- Schafer, J. A., Huebner, B. M., & Bynum, T. S. (2006). Fear of crime and criminal victimization: Gender-based contrasts. *Journal of Criminal Justice, 34*, 285–301.
doi:10.1016/j.jcrimjus.2006.03.003.
- Senn, C. Y., & Dzinan, K. (1996). Measuring fear of rape: A new scale. *Canadian Journal of Behavioral Science, 28*, 141–144.

- Siegel, E. H., Sands, M. K., Van den Noortgate, W., Condon, P., Chang, Y., Dy, J., Quigley, K. S., & Barret, L. F. (2018). Emotion fingerprints or emotion populations? A meta-analytic investigation of autonomic features of emotion categories. *Psychological Bulletin, 144*(4), 343–393.
<http://dx.doi.org/10.1037/bul0000128>
- Sironi, E., & Bonazzi, L. M. (2016). Direct victimization experiences and fear of crime: A gender perspective. *Peace Economics, Peace Science, and Public Policy, 22*(2), 159-172. doi:10.1515/peps-2016-0008
- Skogan, W. (1986). Fear of crime and neighborhood change. *Crime and Justice, 8*, 203-229.
- Skogan, W. G. (1987). The impact of victimization on fear. *Crime & Delinquency, 33*(1), 135–154.
- Skogan, W. G., & Maxfield, M. G. (1981). *Coping with crime: Neighborhood and individual-level reactions*. Sage.
- Snedker, K. A. (2012). Explaining the gender gap in fear of crime: Assessments of risk and vulnerability among New York City residents. *Feminist Criminology, 7*(2), 75–111. doi:10.1177/1557085111424405
- Soto, C. J., & John, O. P. (2017). The next Big Five Inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of Personality and Social Psychology, 113*(1), 117–143. <http://dx.doi.org/10.1037/pspp0000096>.

- Spielberger, C. D., Gorusch, R. L., Lushene, R., Vagg, P. R., and Jacobs, G. A. (1983). State-trait anxiety inventory for adults: Manual, instrument, and scoring guide. Mind Garden.
- Stafford, M., Chandola, T., Martmot, M. (2007). Association between fear of crime and mental health and physical functioning. *American Journal of Public Health*, 97(11), 2076–2081.
- Stryker, S., & Vryan, K. D. (2003). The symbolic interactionist frame. In J. Delamater (Ed.), *Handbook of social psychology* (pp. 3–28). Kluwer Academic.
- Sunshine, J., & Tyler, T. R. (2003). The role of procedural justice and legitimacy in shaping public support for policing. *Law & Society Review*, 37(3), 513–548.
- Swatt, M. L., Varano, S. P., Uchida, C. D., & Solomon, S. E. (2013). Fear of crime, incivilities, and collective efficacy in four Miami neighborhoods. *Journal of Criminal Justice*, 41(1), 1–11. doi:10.1016/j.jcrimjus.2012.09.004.
- Sylvers, P., Lilienfeld, S. O., & LaPrairie, J. L. (2011). Differences between trait fear and trait anxiety: Implications for psychopathology. *Clinical Psychology Review*, 31, 122–137. doi:10.1016/j.cpr.2010.08.004
- Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological Review*, 117(2), 440–463. doi:10.1037/a0018963.
- United States Department of Justice. (1989). *Redesign of the National Crime Survey*. United States Department of Justice.
- Vaidyanathan, U., Patrick, C. J., & Bernat, E. M. (2009). Startle reflex potentiation during aversive picture viewing as an indicator of trait fear. *Psychophysiology*, 46(1), 75–85. doi:10.1111/j.1469-8986.2008.00751.x.

- Warr, M. (1980). The accuracy of public beliefs about crime. *Social Forces*, 59, 465–470
- Warr, M. (1982). The accuracy of public beliefs about crime: Further evidence. *Criminology*, 20(2), 185–204.
- Warr, M. (1984). Fear of victimization: Why are women and the elderly more afraid? *Social Science Quarterly*, 65, 681–702.
- Warr, M. (1985). Fear of rape among urban women. *Social Problems*, 32, 238–250.
- Warr, M. (1987). Fear of victimization and sensitivity to risk. *Journal of Quantitative Criminology*, 3, 29–47.
- Warr, M. (2000). Fear of crime in the United States: Avenues for research and policy. In D. Duffee (Ed.), *Measurement and analysis of crime and justice* (Vol. 4, pp. 451–489). National Institute of Justice.
- Warr, M. (2009). Safe at home. *Contexts*, 8(3), 46–51.
- Warr, M., & Stafford, M. (1983). Fear of victimization: A look at the proximate causes. *Social Forces*, 61, 1033–1043.
- Weiss, R. S. (1994). *Learning from strangers: The art and method of qualitative interview studies*. The Free Press.
- White House. (n.d.). *Standing up for our law enforcement community*.
<https://perma.cc/H4XS-MKRV>.
- White House. (2017a, January 20). *The Inaugural Address*.
<https://www.whitehouse.gov/briefings-statements/the-inaugural-address/>
- White House. (2017b, February 28). *President Donald J. Trump is restoring public safety for all Americans*. <https://www.whitehouse.gov/briefings-statements/president-donald-j-trump-restoring-public-safety-americans/>

- White House. (2017c, December 8). *Inside President Donald J. Trump's first year of restoring law and order*. <https://www.whitehouse.gov/briefings-statements/president-donald-j-trumps-first-year-restoring-law-order/>
- Widen, S. C., Christy, A. M., Hewett, K., & Russell, J. A. (2011). Do proposed facial expressions of contempt, shame, embarrassment, and compassion communicate the predicted emotion? *Cognition & Emotion*, 25(5), 898–906.
doi:10.1080/02699931.2010.508270
- Wilson, J. Q., & Kelling, G. L. (1982). *Broken windows: The police and neighborhood safety*. The Atlantic. <http://www.theatlantic.com/magazine/archive/1982/03/broken-windows/304465/>.
- Winkielman, P., Coulson, S., & Niedenthal, P. (2018). Dynamic grounding of emotion concepts. *Philosophical Transactions of the Royal Society B*, 373, 1–9.
- Yin, P. P. (1980). Fear of crime among the elderly: Some issues and suggestions. *Social Problems*, 27(4), 492–504.
- Yin, P. P. (1982). Fear of crime as a problem for the elderly. *Social Problems*, 30(2), 240–245.
- Yuan, Y., & McNeeley, S. (2017). Social ties, collective efficacy, and crime-specific fear in Seattle neighborhoods. *Victims & Offenders*, 12, 90–112.
doi:10.1080/15564886.2015.1006799
- Zhao, J. S., Lawton, B., & Longmire, D. (2015). An examination of the micro-level crime–fear of crime link. *Crime & Delinquency*, 61(1), 19–44.
doi:10.1177/0011128710386203

Zinbarg, R. E., Revelle, W., Yovel, I., & Li, W. (2005). Cronbach's α , Revelle's β , and McDonald's ω_h : Their relations with each other and two alternative conceptualizations of reliability. *Psychometrika*, *70*(1), 123–133.

APPENDIX A

Example advertisement posted to nextdoor.com

 Aubrey Etopio, Downtown North ▼

Are you concerned about crime?

Would you like to be interviewed for a research study? Interviews are completely anonymous and take about 1 hour. We'll work around your schedule. If interested, call or text 406-686-6201 or email unrcrimestudy@gmail.com.



What are your thoughts on crime?

Would you like to be interviewed?
I'm a UNR graduate student studying
Reno residents' perceptions of crime.

- Interviews last about 1 hour
- Completely anonymous
- We'll work around your schedule
- Must be at least 18

If interested, contact me:

- Call or text: 406-686-6201
- Email: unrcrimestudy@gmail.com

 University of Nevada, Reno

(Study #1242154-1 approved by the UNR Institutional Review Board.)

13 May · 34 neighborhoods in Crime & Safety

APPENDIX B

Study flier posted in Reno neighborhoods



University of Nevada, Reno

Would you like to participate in a research study?

- Topic: perceptions of crime
- I want to hear from you!
- Interviews take about 1 hour
- We'll work around your schedule
- Completely anonymous
- Must be at least 18

Call or text: 406-686-6201
Email: uncrimestudy@gmail.com

Perceptions of crime study
Call or text 406-686-6201
uncrimestudy@gmail.com

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uncrimestudy@gmail.com

Perceptions of crime study
Call or text 406-686-6201

APPENDIX C

Interview guide

1. To start, I'm going to ask you a bit about yourself. Could you describe a typical day for you?
2. How do you feel about living in Reno? How long has it been?
 - In your neighborhood?
 - In your previous neighborhood/city?
3. I'm going to shift topics a little bit if that's okay. What are your thoughts about crime in general?
 - In Reno?
 - In your neighborhood?
 - Nationally?
4. Could you tell me what you think when you hear about crime happening to other people?
 - What's going on in your head?
 - How does it feel?
5. How safe do you feel being outside and alone in your neighborhood at night? Day?
6. How vulnerable do you think you are to becoming the victim of a crime? How likely is it that you could become the victim of a crime in the near future?
7. How does the possibility of crime make you feel?
 - Concerned? Worried? Afraid? Anxious? Angry? Sad?
 - How often do you think about it?
8. Do you fear crime? How often?
9. What does it feel like when you are afraid of crime?
10. In what situations do you fear crime the most?
 - What goes through your head in those moments?
11. What crimes are you most afraid of (concerned about)?
 - Violent crimes like assault?
 - Property crimes like theft or burglary?
12. What do you think makes you feel the way you do about crime? What led to how you feel now?
13. Have you ever been the victim of any kind of crime? (You don't have to answer if you don't want to.)
14. What do you think would happen if you became the victim of a crime?
 - How serious would it be to you?
 - Could you walk me through that?
15. Is there something else you think I should know? Could be something you forgot to say or something I didn't ask.

APPENDIX D

Exit survey

Is there anything you didn't say in the interview that you'd like me to know about this topic?

What is your age? _____

What is your gender?

- a) Man
- b) Woman
- c) Other: _____

What is your race/ethnicity? Check all that apply

- a) White / Caucasian
- b) Black / African American
- c) Hispanic / Latino
- d) Asian
- e) Native American / Alaskan Native
- f) Native Hawaiian / Pacific Islander
- g) Other: _____

Have you ever been the victim of a crime?

- a) Yes
- b) No
- c) Unsure

How urban or rural is your neighborhood?

- a) Very urban
- b) Urban
- c) Suburban
- d) Rural
- e) Very rural

What is the highest degree or level of school you have completed? (If you're currently enrolled in school, please indicate the highest degree you have received.)

- a) Less than a high school diploma
- b) High school degree or equivalent (e.g. GED)
- c) Some college, no degree
- d) Associate degree (e.g. AA, AS)
- e) Bachelor's degree (e.g. BA, BS)
- f) Master's degree (e.g. MA, MS, MEd)
- g) Doctorate (e.g. PhD, EdD)
- h) Professional degree (e.g. MD, DDS, DVM)

What is your religious affiliation?

- a) Christian, Catholic
- b) Christian, Protestant
- c) Christian, Other
- d) Muslim
- e) Jewish
- f) Buddhist
- g) Agnostic
- h) Atheist
- i) Other: _____

What is your political affiliation?

- a) Very liberal
- b) Liberal
- c) Somewhat liberal
- d) Moderate
- e) Somewhat conservative
- f) Conservative
- g) Very conservative

What is your combined household income?

- a. Less than \$19,999
- b. \$20,000 to \$39,999
- c. \$40,000 to \$59,999
- d. \$60,000 to \$79,999
- e. \$80,000 to \$99,999
- f. \$100,000 to \$119,999
- g. \$120,000 to \$139,999
- h. \$140,000 to \$159,999
- i. \$160,000 to \$179,999
- j. \$180,000 to \$199,999
- k. \$200,000 or more
- l. Don't know

APPENDIX E

1. I'm afraid of a crime happening to me.
2. I feel vulnerable to becoming the victim of a crime.
3. The possibility that crime could happen to me is always in the back of my mind.
4. I'm deathly afraid to go outside at night.
5. I generally feel safe no matter where I go.
6. The possibility of crime gives me emotional stress.
7. I'm worried about becoming a victim of a crime.
8. I have an emotional concern that I could be the victim of a crime.
9. I don't think about crime in relation to me.
11. I am suspicious that strangers will take advantage of me.
14. I'm not worried about other people harming me.
17. I fear for my own safety from crime.
18. I'm paranoid that I could become the victim of a crime.
19. Crime worries me in my day-to-day life.
20. I can't relax because of the possibility of crime.
21. The possibility of being a victim of a crime is really scary to me.
22. I'm anxious that I could end up being the victim of crime.
23. I'm terrified that someone will commit a crime against me.
24. I get fearful when I hear about crime happening.
25. I'm scared that crime could happen to me.
26. I am afraid of crime in my day-to-day life.
27. I am bothered by crime.
28. I am not concerned about crime.
30. I'm scared that crime will happen to me.
31. I'm worried about crime.
32. I don't think about the possibility of being victimized.
33. In my life, I am not afraid of being the victim of crime.
34. My mind races trying to keep myself safe from crime.
35. It causes me stress to think about crime.
36. The threat of crime really bothers me.
37. I don't live in fear of crime.
38. I panic knowing that I could become the victim of a crime.
39. I'm paranoid about my safety from crime.
40. Knowing that I could fall victim to crime makes me uncomfortable.
41. It makes me uneasy to think that crime can happen to me.
42. Crime makes me feel restless.

APPENDIX F

Ferraro's (1995) fear of crime scale

At one time or another, most of us have experienced fear about becoming the victim of a crime. Some crimes probably frighten you more than others. We are interested in *how afraid* people are in everyday life of being a victim of different kinds of crimes. Please rate your fear on a scale of 1 to 10 where 1 means you are *not afraid at all* and 10 means you are *very afraid*.

Rate your fear of...

1. Being approached on the street by a beggar or panhandler.
2. Being cheated, conned, or swindled out of your money.
3. Having someone break into your home while you are away.
4. Having someone break into your home while you are there.
5. Being raped or sexually assaulted.
6. Being murdered.
7. Being attacked by someone with a weapon.
8. Having your car stolen.
9. Being robbed or mugged on the street.
10. Having your property damaged by vandals.

Items 4, 5, 6, and 7 indicate fear of personal crime. Items 2, 3, 9, and 10 indicate fear of property crime. Item 8 was not included in either subscale since some participants may not have cars.

APPENDIX G

Cops' (2013) fear of crime scale

Wording has been adjusted to eliminate leading questions and minimize acquiescence bias.

Participants responded on a 6-point Likert scale where 1 = "strongly disagree," 2 = "disagree," 3 = "somewhat disagree," 4 = "somewhat agree," 5 = "agree," and 6 = "strongly agree."

1. It is unsafe to let children be unsupervised on the streets.
2. Out of fear something happening to me, I do not dare to go out alone at night.
3. In the evenings you have to be very careful walking down the streets.
4. The streets are not safe.
5. The police are not capable of protecting us against criminals.
6. Out of fear of assault, I do not dare to go to some neighborhoods.
7. A burglar alarm is not a luxury.
8. I do not dare to stay home alone during the evenings and nights.

APPENDIX H

Gau's (2014) police legitimacy and global procedural justice scales

Participants responded on a 6-point Likert scale where 1 = "strongly disagree," 2 = "disagree," 3 = "somewhat disagree," 4 = "somewhat agree," 5 = "agree," and 6 = "strongly agree."

Police Legitimacy: Trust

1. Police protect people's basic rights
2. Police are generally honest
3. Most police officers do their jobs well
4. Police can be trusted to do what's right for my neighborhood

Global Procedural Justice: Quality of Treatment

5. Police treat people with respect
6. Police treat people fairly
7. Police take time to listen to people
8. Police make decisions based on facts and law, not on their personal opinions
9. Police explain their decisions to people

APPENDIX I

Negative emotionality subscale from the Big Five Inventory–2 (Soto & John, 2017)

Participants responded on a 6-point Likert scale where 1 = “very untrue for me,” 2 = “untrue for me,” 3 = “somewhat untrue for me,” 4 = “somewhat true for me,” 5 = “true for me,” and 6 = “very true for me.”

I am someone who...

1. is relaxed, handles stress well*
2. stays optimistic after experiencing a setback*
3. is moody, has up and down mood swings
4. can be tense
5. feels secure, comfortable with self*
6. is emotionally stable, not easily upset*
7. worries a lot
8. often feels sad
9. keeps their emotions under control*
10. rarely feels anxious or afraid*
11. tends to feel depressed, blue
12. is temperamental, gets emotional easily

*reverse-coded

APPENDIX J

Lipkus, Dalbert, and Siegler's (1996) belief in a just world-self scale

Participants responded on a 6-point Likert scale where 1 = "strongly disagree," 2 = "disagree," 3 = "somewhat disagree," 4 = "somewhat agree," 5 = "agree," and 6 = "strongly agree."

1. I feel that the world treats me fairly.
2. I feel that I get what I deserve.
3. I feel that people treat me fairly in life.
4. I feel that I earn the rewards and punishments that I get.
5. I feel that people treat me with the respect that I deserve.
6. I feel that I get what I am entitled to have.
7. I feel that my efforts are noticed and rewarded.
8. I feel that when I meet with misfortune, I have brought it upon myself.

APPENDIX K

Lester's (1990) fear of death scale

I removed two items asking about disease and degeneration of old age from the dying of self subscale.

Participants responded on a 6-point Likert scale where 1 = "very untrue for me," 2 = "untrue for me," 3 = "somewhat untrue for me," 4 = "somewhat true for me," 5 = "true for me," and 6 = "very true for me."

Death of self

1. I would avoid death at all costs.
2. The total isolation of death frightens me.
3. I am disturbed by the shortness of life.
4. The feeling that I might be missing out on so much after I die bothers me.
5. I would not mind dying young.*
6. I view death as a release from earthly suffering.*
7. Not knowing what it feels like to be dead does not bother me.*
8. The idea of never thinking or experiencing again after I die does not bother me.*
9. I am not disturbed by death being the end of life as I know it.*

Dying of self

10. I am disturbed by the physical degeneration involved in a slow death.
11. The pain involved in dying frightens me.
12. I am disturbed by the thought that my abilities will be limited while I lie dying.
13. Dying might be an interesting experience.*

*reverse-coded