

# The Limitations and Advancements in Measuring Fear of Crime

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## Abstract

To measure fear of crime, the dichotomous single-item question is often used. The question has several inherent limitations which cause problems in validity and reliability in measurement of fear of crime. To overcome the limitations, researchers have advanced measurement of fear of crime. The advancements in measurement of fear of crime made researchers understand fear of crime more deeply. The current paper demonstrates the limitations and advancement by using several examples.

**Keywords:** Measurement, Fear of Crime, Limitations, Advancements, Validity, Reliability

## 1. Introduction

Fear of crime is often measured as a dichotomous response (yes-no) to a single survey question that asks whether the respondent is fearful while out alone at night in his/her neighborhood. In this paper, first, I will discuss the inherent measurement limitations with using such a measure of fear of crime. Before the discussion, I will provide a definition of fear of crime. Second, I will describe and explain the advancements that researchers have made in measuring fear of crime. I will explain how and why these advancements have improved the validity and reliability of the fear of crime measure. Finally, I will provide examples of how these advancements in measurement have improved researchers' understanding of fear of crime. I will incorporate the known paradoxes (e.g., females and elderly are more fearful) and the "shadow of rape" in the fear of crime field of study into my paper.

## 2. Inherent Measurement Limitations

### 2.1 Definition

Fear of crime is defined by many scholars but there is no common definition of fear of crime. Because there is no definition, questions to measure fear of crime are different according to surveys, and this works as an inherent limitation to measure fear of crime. For example, for fear of crime, Garofalo (1981) defined as "emotional reaction characterized by a sense of danger and anxiety... produced by the threat of physical harm... elicited by perceived cues in the environment that relates to some aspect of crime" (p. 840). Ferro and LaGrange (1987) defined as "the negative emotional reaction generated by crime or symbols associated with crime" (p. 73). Ferraro (1995) defined as "emotional response of dread or anxiety to crime" (p. 23) and Warr (2000) defined as "an emotion, a feeling of alarm or dread caused by an awareness or expectation of danger" (p. 453).

### 2.2 Formless Measure

Measure of fear of crime by the dichotomous single-item question is a formless measure meaning that it does not refer to real crime or refer to general crime. Thus, it is not clear whether the question really measures fear of crime or measures other concept (Ferraro & LaGrange, 1987). For example, "is fearful" is unclear in the question. The fear may be from bad physical condition (e.g., bad eyesight). Also, the fear may exist from a negative environmental condition such as a blurred streetlight. Such question is about generalized fear of personal safety, thus, not necessarily about fear of crime (Radar, 2004).

Even assuming that the dichotomous single-item question measures fear of crime, it does not measure fear of specific crime but fear of general crime. If the question does not designate a specific crime, respondents will answer the question based on crimes they think freely. Someone will think murder and someone will think rape. The different kind of crime may make degree of fear of crime differ among the respondents. Warr and Stafford (1983) found that individuals are more afraid of being bugled rather than being murdered after examining fear of 16 kinds of crimes. Also, females are most afraid of being sexually victimized (Ferraro, 1995; 1996; Fisher & Sloan, 2003; Warr, 1984; 1985). Hence, the formless measure

such as the dichotomous single-item question raises the question on validity (Ferraro, 1995; Ferraro & LaGrange, 1987; LaGrange & Ferraro, 1989).

### *2.3 Broad Context Measures*

The dichotomous single-item question measures broad context. This works as another limitation (Lane et al., 2014). The question makes it hard to compare the level of fear of crime across studies by generalizing the amount of fear. Two examples are as follows. First, research showed that females are more afraid of walking alone at night than males (Ferraro, 1995). In the case, if the dichotomous single-item question is used to measure fear of crime, the researcher may conclude that females are more afraid of crime than males. However, it may be possible for females to be more afraid of crime than males only in the condition of being alone at night. Second, individuals who live in high-crime areas may not be afraid of crime because they are familiar with the areas (Ferraro & LaGrange, 1987). The individuals may be afraid of crime in less-crime areas because they are not familiar with the areas. The dichotomous single-item question cannot reflect this case precisely.

### *2.4 Dichotomous Response*

The dichotomous single-item question uses “yes” or “no” as the answer. Thus, the question makes it possible to identify whether respondents have fear of crime. However, intensity of fear of crime and frequency of fear of crime cannot be identified by the dichotomous single-item question. This works as another limitation of the question.

### *2.5 Fear of Crime vs Perceived Risk*

After LaGrange and Ferraro’s (1989) separated fear of crime from perceived risk, researchers recognize the difference between the two concepts. However, some scholars failed to distinguish the two concepts. Two examples are as follows. First, some scholars measured perceived risk of crime. However, they used the measure for fear of crime instead of perceived risk of crime (Ferraro & LaGrange, 1987; Warr, 2000). Second, some scholar measured both fear of crime and perceived risk of crime. However, they used the integration of the two measures for the measure of fear of crime (Ferraro, 1995).

If only the dichotomous single-item question is used to measure fear of crime without separate questions about perceived risk of victimization, respondents may answer perceived risk of victimization as fear of crime. It may undermine validity in measurement of fear of crime by making it hard to measure fear of crime precisely.

## **3. The Advancements in Measuring Fear of Crime**

### *3.1 Wording for Specific Offenses*

Researchers have changed the wording to ask fear of specific crime instead of fear of general crime (e.g., see Ferraro, 1995; Fisher & May, 2009; May et al., 2010; Warr & Stafford, 1983). For example, Fisher and May (2009) asked about fear of four specific kinds of crimes (i.e., robbery, assault, assault with a weapon, and sexual assault). This skill decreased the possibility of measurement error by blocking that respondents answer questions based on

crimes that respondents think freely (Lane et al., 2014). In other words, the skill improved validity and reliability in measuring fear of crime by helping respondents clearly answer the questions about fear of crime unlike the dichotomous single-item question.

### *3.2 Wording for Specific Context*

Researchers developed questions about specific-context. For example, Smith and Hill (1991) offered specific context (i.e., inside, outside, day, and night) to respondents when they measure fear of crime. The efforts of researchers improved validity and reliability in measuring fear of crime by decreasing ambiguity of context to respondents unlike the dichotomous single-item question.

### *3.3 Response Options*

Researchers changed traditional dichotomous questions into Likert-scale questions (Lane et al., 2014). For example, Fisher and Sloan (2003) used a 10-point scale (i.e., 1 = “Not Afraid at All” to 10 = “Very Afraid”) and, May et al. (2010) used a 4-category Likert-scale (i.e., 1 = “Strongly Disagree” to 4 = “Strongly Agree”) to measure fear of crime. Using a Likert-scale helped get much more information in research compared to using the dichotomous single-item question. That is, researchers could measure intensity of fear of crime as well as existence of fear of crime by using a Likert-scale. Using a Likert-scale improved validity and reliability in measuring fear of crime by helping to measure respondents’ fear of crime more precisely.

### *3.4 Distinguishing Measures of Fear between Measures of Perceived Risk*

Past researchers did not distinguish differences between perceived risk and fear of crime. However, researchers recognized that although fear of crime and perceived risk of victimization are highly correlated, the two concepts are different, and put the measure of perceived risk in their fear of crime research (e.g., see Ferraro, 1995; Wilcox et al, 2007). That is, researchers recognized that perceived risk is a closest cause of fear of crime and have used it as a basic predictor of fear of crime (Lane et al., 2014). Distinguishing differences between fear of crime and perceived risk improved validity and reliability in measuring fear of crime by helping to measure fear of crime more precisely.

### *3.5 Additional Measures*

Researchers have enlarged an understanding of fear of crime by examining its various aspects. For example, Farrall and Gadd (2004) asked whether the respondents are afraid of being victimized, how much they are afraid of, and how often they are afraid. Through the questions, they could measure frequency of fear of crime as well as existence and intensity of fear of crime. The additional measure for fear of crime improved validity and reliability in measuring fear of crime. For example, in case of asking intensity of fear of crime without asking frequency of fear of crime, the meaning of intensity of fear of crime is unclear. That is, whether the intensity is a most recent intensity of fear of crime or overall intensity of fear of crime is not clear. In this case, if frequency of fear of crime is asked, and then intensity of fear of crime of a recent occasion is asked, measure of intensity of fear of crime will be more

valid and reliable.

#### **4. How the Advancements Have Improved Researchers Understanding of Fear of Crime**

As mentioned above, measurement of fear of crime has been much improved. These advancements in measurement have improved researchers' understanding of fear of crime. Several examples are as follows.

##### *4.1 Male vs Female*

Males are more victimized in all kinds of street crimes except sexual assault and intimate partner violence (Lauritsen & Rezey, 2013). For example, males have two times more risks of homicide, assault, robbery, and being violently victimized by strangers (Harrell, 2012; Karmen, 2010). Whereas, females have much more experienced sexual assault, intimate partner violence, and stalking (Lane et al., 2014). Research showed that females have four times risks of intimate victimization and sexual assault (Catalano et al, 2009; Fisher & Sloan, 2003; Lauritsen & Rezey, 2013).

Although females are much less victimized in street crimes compared to males, the level of fear of crime is much higher than males (Ferraro, 1995; Ferraro, 1996; Scarborough et al., 2010). Especially, research showed that a difference of fear of crime between females and males depended on the kinds of crimes. For example, there was not much difference of fear of burglary and robbery between females and males. However, in sexual assault, females had much higher fear of crime compared to males (Reid & Konrad, 2004).

Advancements in measurement have improved researchers' understanding differences of fear of crime between females and males. That is, using questions about fear of specific crimes instead the dichotomous single-item question made it possible for researchers to understand that differences of fear of crime between females and males depended on the kinds of crimes (e.g., see Reid & Konrad, 2004).

##### *4.2 Shadow of Sexual Assault*

Various explanations have been suggested for the reason why females are more fearful of crimes than males in spite of being much less victimized compared to males. Among them, shadow of sexual assault thesis receives most interest. Warr (1984) argued that "fear of crime is fear of rape" for many women (p. 700). Also, Ferraro (1995, 1996) explained that the reason why females are more fearful of crimes is due to worrying about possibility of being raped and expected physical and emotional results. Ferraro (1996) discovered that fear of rape is more important than perceived risk for predicting fear of personal crimes and argued that fear of rape is the most important element explaining females' fear of other crimes. According to Ferraro (1996) fear of crime is actually fear of rape, and it shadows females' fear of all crimes. Fisher and Sloan (2003) tested the perspective by using a college student sample and found that fear of sexual assault is related to both fear of property crime and fear of violence crime. Wilcox et al. (2007) found that college women are more afraid of sexual assault by known persons than by unknown persons.

Discovery of shadow of sexual assault was possible due to researchers' advancements in measurement of fear of crime. The reasons are as follows. First, distinguishing between fear of crime and perceived risk of victimization helped to discover shadow of sexual assault. For example, Ferraro (1996) distinguished between fear of crime and perceived risk of victimization, and then found that differences of fear of crime between females and males were much bigger than differences of perceived risk of victimization between females and males. Second, measuring fear of specific crimes instead of general crime made shadow of crime discovered. For example, Ferraro (1996) found that females were especially fearful of sexual assault by measuring and comparing fear of 10 kinds of specific crimes. Finally, using Likert-scale instead of the dichotomous response helped to discover shadow of sexual assault. For example, Ferraro (1996) could get more precise responses by measuring fear of crime and perceived risk of victimization using a 10 point Likert-scale instead of the dichotomous response.

#### *4.3 The Elderly vs The Young*

Early research on fear of crime showed that the elderly are more fearful than the young based on actual victimized risk (Clemente & Kleiman, 1977; Skogan & Maxfield, 1981; Yin, 1982). Some researcher explained that the reason was due to the elderly's physical or social vulnerability (Skogan & Maxfield, 1981). However, the later research showed that the young are more fearful than the elderly (Ferraro, 1995; Lane & Meeker, 2003; Rountree, 1998; Rountree & Land, 1996). Researchers pointed out that the reason why the findings had been changed were due to early research's poor measurement (Ferraro & LaGrange, 1988; Yin, 1980, 1982).

The change of understanding differences of fear of crime between the elderly and the young was possible due to researchers' advancements in measurement of fear of crime. That is, using questions about fear of specific crimes instead of a dichotomous question about fear of general crime made the change possible. LaGrange and Ferraro's research (1989) showed well why the change happened as follows. In the research, they asked about the fear of 11 kinds of crimes to respondents by age (i.e., 11-29, 30-45, 46-64, 65+) and compared their findings to the findings from NSC which used the dichotomous single-item question to measure fear of crime. Then they found that in the analysis of their data, more elder individuals were less fearful of crime whereas in the analysis of NCS data, more elder individuals were more fearful of crime.

#### *4.4 Situational Cues*

Specific contexts influence fear of crime. Such contexts include new or dark places. Such places increase fear of crime because individuals feel that potential offenders can hide in the places and it is difficult for the individuals to run away from the places (Fisher & Nasar, 1992; Warr, 1990). Also, individuals feel more fearful in places with limited prospect and that are hard to escape (Fisher & Nasar, 1995). Although the fear of crime from such contexts occurs in both females and males, females often feel more fear of crime in the situation (Fisher et al., 1995).



Understanding fear of crime from situational cues was possible due to researchers' advancements in measurement of fear of crime. That is, using questions about fear of crime at specific contexts instead of the dichotomous single-item question made the discovery of the effects of situational cues possible. For example, Fisher and Nasar (1995) used questions asking about fear of crime at day and night for eight specific locations to know fear of crime according to specific contexts.

#### *4.5 Experiential Fear vs Expressive Fear*

Farrall et al. (2009) distinguished fear from crime experience and fear from crime non-experience. They called the former as experiential fear, and the latter as expressive fear. Their research showed that poor areas with many crimes had more experiential fear. Also, their findings showed that expressive fear was related with sympathy for the victims and a concern about social change.

Understanding experiential fear and expressive fear was possible due to researchers' advancements in measurement of fear of crime. Farrall et al. (2009) used questions about experience of fear and frequency of fear in their research. The questions made them to measure experiential fear and expressive fear which could not be measured by the dichotomous single-item question.

## **5. Conclusion**

To measure fear of crime, the dichotomous single-item question is often used. The question has several inherent limitations which cause problems in validity and reliability in measurement of fear of crime. To overcome the limitations, researchers have advanced measurement of fear of crime. The advancements in measurement of fear of crime made researchers understand fear of crime more deeply.

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