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Victimization Among Individuals With Low Self-Control: Effects on Fear Versus Perceived Risk of Crime

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Victimization Among Individuals With Low Self-Control: Effects on Fear Versus
Perceived Risk of Crime

by

Casey Williams

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts
Department of Criminology
College of Behavioral and Community Sciences
University of South Florida

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Table of Contents

List of Tables	ii
List of Figures	iii
Abstract	iv
Chapter 1: Introduction	1
Chapter 2: Literature Review	9
Victimization	9
Self-control	11
Fear and Risk Appraisal	14
Fear and Self-control	21
The Present Study: Implications for Theory and Intervention	25
Chapter 3: Methods	28
Overview of the Data	28
Measures	33
Dependent Variable	33
Independent Variables	34
Analyses	39
Chapter 4: Results	45
Bivariate Correlations	45
Ordinary Least Squares (OLS) Regression	47
Model 1	48
Model 2	48
Model 3	49
Model 4	50
Model 5	50
Chapter 5: Discussion and Conclusions	53
References	65
Appendices	80
Appendix A: Survey	81

List of Tables

Table 1	Percentage of sample white and male at waves 1 and 4	30
Table 2	Breakdown of gender and race combined from wave 1 to wave 4	30
Table 3	Mean rate of victimization broken down according to participants who dropped out of the study and those who remained until wave 4	31
Table 4	Items and factor loadings for the measure of victimization at time 2	34
Table 5	Items and factor loadings for the measure of previous victimization	35
Table 6	Items and factor loadings for the measure of self-control	36
Table 7	Items and factor loadings for the measure of fear of victimization	37
Table 8	Items and factor loadings for the measure of risk appraisal	38
Table 9	Bivariate correlation matrix	47
Table 10	OLS regression results	52

List of Figures

Figure 1.	Conceptual Model of Victimization	43
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ABSTRACT

Fear of crime is an issue that has long been a part of mainstream society through politics and media. However, research on the specific mechanisms of fear and the effects on behavior is sparse. After considering the victim-offender overlap consistently found within the literature, the present study was based on the theory posed within Schreck, Stewart, and Fisher (2006) in which those who are low in self-control may have altered perceptions of fear or risk of crime that might increase the likelihood that the individual will be in risky locations conducive to victimization. The current study also included a novel feature in which fear of crime is measured by two separate constructs, an emotional fear response to crime as well as a cognitive risk perception of crime as suggested in Rountree and Land (1996). This study will utilize data collected from 3,692 seventh-graders in Kentucky as part of the Rural Substance Abuse and Violence Project. It is believed that this study will help to better explain the process behind school victimization in particular, not only for intervention and prevention purposes for offending behavior, but to also prevent victimization.

Chapter 1: Introduction

Traditionally, criminological theories have separated the etiologies of criminality and victimization, focusing more heavily on the former than latter. However, within the last three to four decades, greater emphasis has been placed on understanding victimization, both theoretically and empirically. Current victimization research includes the study of potential associations, predictors, and etiologies of different types of victimization (e.g. routine activities, individual factors, race, age, etc.) as well as its occurrence within different populations (e.g. students, juveniles, adults, offenders, etc.) and settings (e.g. community, school, etc.).

An area of victimology that could be of potential value is the study of victimization within the school environment. The study of victimization within school allows for the assessment of all the same factors as in regular victimization outside the school environment, but within a smaller and more controlled context. In addition to improved accessibility and monitoring of participants, this is particularly useful and important because it allows for researchers to better control for other variables that may be harder to identify and consider in larger contexts such as the community. Rather than focusing on community-level factors, research that focuses on a smaller setting such as the school environment may better identify individual factors that may be related to victimization (e.g., personality traits). Furthermore, it has been suggested that adolescents may be more likely to experience higher rates of victimization in school compared to any other setting (Gottfredson, 2001). This could be due to heightened level of contact with

potentially delinquent peers and the overall amount of time spent within the environment. Regardless of the specific factors influencing victimization, a variety of sources indicate the nation's youth have an elevated risk for victimization.

A youth victimization study conducted by Kilpatrick, Saunders, and Smith (2003) examined 12-17 year olds and found that this age group was at high risk of victimization, especially violent victimization, on and off school grounds. Furthermore, they found that those youths who did experience or witness victimization were more likely to have problems, including mental health issues, substance abuse, Post-Traumatic Stress Disorder, and delinquency. The Indicators of School Crime and Safety (2008) also reported that there were 35 violent deaths that occurred within schools from July 2006 to June 2007 within the age group of 5-18 year olds, 27 of which were homicides. There were 1.7 million reported victims of non-fatal crimes at school within the age group of 12-18 year olds. Around 900,000 crime occurrences were thefts and almost 800,000 were violent crimes including simple assault and serious violent acts. Close to 90% of public schools reported at least one crime occurrence, ranging from theft to serious violence at the school during the time period of 2005-2006. Furthermore, in 2007, 4% of students ages 12-18 reported being victimized while at school. In 2006, this same age group was more likely to experience theft on school grounds in comparison to off school grounds. These statistics indicate that school victimization is an important phenomenon to study.

In addition to the descriptive data noted above, school victimization can have important consequences that could affect adolescents in ways that could lead to future dysfunction. For example, victimization could “impact their feelings of safety and reduce their willingness to attend school, which could lead to disorders or crime” (Esbensen,

2008). Additionally, students may experience school failure or lack of positive social bonds to school and teachers, which are risk factors for delinquency (Welsh, 2001). Identifying and targeting the most at-risk individuals could be especially helpful in school victimization, because there is a better chance of observing problem behavior or incidences of offending and victimization. There may also be a better chance at successfully administering prevention and intervention programs while in school environments.

The critical question that remains is who is the most likely to be victimized? As is the case with victimization in the general population, some individuals seem to be more likely to experience victimization within school settings (Esbensen, 2008). Some general factors that have been suggested as “causes” in both general victimization and within the school context include age, gender, race/ethnicity, grade level, community factors, school factors, family structure, and attitudinal and behavioral factors. As in victimization within the general population, younger age groups (Finkelhorn, Ormrod, Turner, & Hamby, 2005; Esbensen, 2008; Sampson & Lauritsen, 1990), males (Esbensen, 2008; Sampson & Lauritsen, 1990), and minorities (Esbensen, 2008; Welsh, 2001) are more likely to be victimized.

Esbensen’s (2008) review on school victimization revealed that lower grade levels may experience higher victimization compared to high school students, and also found that certain community, school, family, and attitudinal factors are related to victimization. Some of these factors include attachment to school, perceptions of crime in the community, perception of guns and gangs at the school, perceived fairness of school rules, and neighborhood/location of the school and surrounding community.

However, as Esbensen suggests, demographic variables do not shed light on the causal variables associated with the higher likelihood of some being victimized compared to others. For this he suggests behavioral characteristics would be more helpful in understanding the causal variables behind victimization rather than focusing on descriptions of victims. Behaviors related to victimization within schools include having delinquent friends, carrying a weapon, having been victimized previously, and being delinquent oneself (Gottfredson, 2001; Schreck, 1999; Schreck, Miller, & Gibson, 2003; Welsh, 2001; Wilcox, May, & Roberts, 2006). It is important to explore these factors and their possible relationship with victimization because as Esbensen (2008) points out, “policies are made largely based on these correlates without knowledge of their being really causes, effects, or simply co-occurrences.”

Early victimization theories (Cohen & Felson, 1979; Hindelang, Gottfredson, & Garofalo, 1978) suggested that suitable targets, lack of guardians, and opportunity increase the likelihood of victimization regardless of the factors motivating the offender (Cohen, Kluegel, & Land, 1981; Sampson & Lauritsen, 1990). In fact, such theories assume a motivated offender is a constant, and requires no explanation. Others have suggested that engaging in violent offending, living deviant lifestyles, and having close proximity to crime are factors that are associated with victimization (Sampson & Lauritsen, 1990). These explanation point not only to reasons why some individuals are more likely to be victimized, but also to the overlap between victimization and offending behavior, suggesting a common etiology (Jenson & Brownfield, 1986; Sampson & Lauritsen, 1990; Thornberry & Figlio, 1974).

The assumptions behind these theories are all in accordance with the generally accepted findings that those who are most likely to offend share characteristics with individuals who are more likely to be victimized. For example, Dobrin, Lee, and Price (2005) found that age, gender, and race were related to homicide victimization. Specifically, African-Americans were almost three times more likely than Caucasians to be murdered. Males were around two times more likely to be victimized than females. Also, age was negatively related to homicide victimization. Finkelhorn et al. (2005) show that younger cohorts are more likely to be victimized; 6-12 year olds were more likely than teenage participants to experience physical assault and property victimization. A review of NCVS survey data from the past 30 years also showed that the overall decline in crime victimization has not been experienced among lower SES individuals as much as more affluent individuals (Thacher, 2004). Several of these factors are not just correlates of victimization, but offending as well.

While past research on victimization has examined some individual-level factors, such as the sociodemographic factors mentioned above, far fewer have looked at factors such as self-control. Self-control is one of the most influential criminological constructs and has been shown to be related to antisocial behavior and criminality (Caspi et al., 1997; Caspi et al., 1994; Cleckley, 1976; Hoyle, Fejfar, & Miller, 2000; Eysenck, 1994; Eysenck & Eysenk, 1976; Knust, & Stewart, 2002; Krueger, Caspi, Moffitt, Silva, & McGee, 1996; Krueger et al., 1994; Wilson, Rojas, Haapanen, Duxbury, and Steiner, 2001; Zuckerman, 1979). Gottfredson and Hirschi (1990) suggest it is the main explicative factor in their General Theory of Crime. It has been suggested that self-control may be applied to explanations of victimization as well. This can be implied from

numerous studies that have shown a substantial overlap between offender and victim populations (Broidy, Daday, Crandall, and Sklar, 2006; Coffey, Veit, Wolfe, Cini, & Patton, 2003; Esbensen & Huizinga, 1991; Laub & Valliant, 2000; Lauritsen, Laub, & Sampson, 1992; Lauritsen, Sampson, & Laub, 1991; Singer, 1981). In fact, there are studies that show evidence of a relationship between self-control and victimization across a variety of samples (Piquero, MacDonald, Dobrin, Daigle, & Cullen, 2005; Melde 2009; Schreck, 1999; Schreck, Wright, & Miller, 2002; Stewart, Elifson, & Sterk, 2004).

Although self-control has been found to be related to victimization, the mechanisms linking the two are less established. There are a variety of possible mechanisms, however, that can be gleaned from the existing literature. Research shows that those low in self-control are physiologically different from those high in self-control, suggesting that low self-control could be related to a decreased physiological response of fear (Zuckerman & Kuhlman, 2000). Research also shows that offenders, typically characterized by low self-control, usually exhibit lower physiological fear responses compared to individuals high in self-control (Cauffman, Steinberg, & Piquero, 2005; Gorenstein, 1982; Moffitt, Lynam, & Silva, 1994; Sequin, Phil, Harden, Tremblay, & Boulrice, 1995), suggesting that self-control may intuitively be related to victimization. The reasoning behind this line of research is that those who are low in self-control will be more at risk of being victimized due to a lack of fear in dangerous situations. However, there is a dearth of research that specifically examines self-control and fear. Research is also needed on whether this potential low self-control/low fear relationship explains actual victimization experiences.

Further complicating the issue is research proposing a reconceptualization of the construct of fear (Ferraro & LaGrange, 1987). While past research has used the term fear to describe general worry about crime, the physiological response of fear of victimization, and risk appraisal, current research suggests that the physiological experience of the negative emotion of fear should be considered unique and separate from the more cognitive process of risk appraisal (Ferraro & LaGrange, 1987; Wilcox-Rountree, & Land, 1996a; 1996b). Therefore, the relationship between self-control and victimization may be due to risk appraisal as well as, or instead of, fear of crime. More research is needed in order to explore these unique constructs and how they are related to other variables such as self-control and victimization. For example, Melde (2009) alludes to the possibility that since both offending and victimization behaviors are related to less fear and lower perception of risk, perhaps self-control is the common factor behind these relationships.

Schreck, Stewart, and Fisher (2006) explored the possible role of self-control in victimization in more depth, suggesting self-control may influence rational decision making. This may, in turn, affect one's lifestyle/routine activities, and could ultimately affect the likelihood of victimization. Specifically, the study examined whether self-control was able to predict victimization over time. The researchers also looked at whether previous victimization leads to subsequent changes in risky behavior and whether self-control moderated this relationship. This suggests the possibility that if self-control was able to predict victimization, it could also contribute to a higher likelihood of the individual failing to change his or her risky behavior. This is in fact what the researchers found. The authors believed these findings could be indicative of self-control

influencing the relationship between perception of risk and victimization. The current study hopes to address this notion more fully by adding a fear component. Specifically, the study will address whether self-control can affect perceptions of fear of crime and if fear influences the nature of a person's subsequent victimization. This study will also expand on the fear of victimization literature by assessing actual victimization and the emotional response of fear of victimization instead of solely relying on the more cognitive measure of risk appraisal.

The specific research questions that the present study will answer include: 1) Are those who are low in self-control more or less likely to have an emotional fear response to victimization? 2) Are those who are low in self-control more or less likely to judge a victimization event as likely to occur? 3) Are fear of victimization and risk appraisal related to victimization and what is the nature of these relationships? Are juveniles who fear crime or judge it as highly probable in their school environment more or less likely to be victimized in school? 4) Is previous victimization related to risk perception or fear of victimization, net of self-control?

These questions are important as they may further illuminate the pathways through which individual factors (e.g. self-control) influence the likelihood of victimization. Such an approach not only would underscore the risk factors associated with victimization, but the mechanisms through which they operate. Knowledge of these issues can allow for more targeted prevention and intervention efforts that can be utilized in an effort to reduce victimization.

Chapter 2: Literature Review

Victimization

There appears to be a relatively strong consensus in the research that some individuals have a greater chance of being victimized than most (Fisher et al., 1998). However, most of the research on victimization remains descriptive, reporting only demographic variables and individual factors that are characteristic of individuals with the highest victimization rates (Dobrin et al., 2005; Finkelhorn et al., 2005; Esbensen, 2008; Sampson & Lauritsen, 1990; Welsh, 2001). There is a relative dearth of information regarding the mechanisms behind who becomes victimized.

Lifestyle/Routine activities theory, premised on the assertion that certain environmental situations are associated with a higher likelihood of victimization, are well established in criminological research and are usually called upon to explain crime victimization patterns (Cohen & Felson, 1979; Fisher, Sloan, Cullen, & Lu, 1998; Gover, 2004; Jensen & Brownfield, 1986; Lauritsen, Laub, & Sampson, 1992; Lauritsen, Sampson, and Laub, 1991; Miethe, Stafford, & Long, 1987; Mustaine & Tewksbury, 1998; Shreck, Fisher, & Miller, 2004). Routine activities theory, originally developed by Cohen and Felson (1979) described three requirements that need to occur at the same time in the same place, which include a 1) suitable target, 2) lack of capable guardians, and 3) motivated offender willing to commit the act. Cohen and Felson assert that

victimization is more likely when there is “a convergence in space and time of the three minimal elements of direct-contact predatory violations” (Cohen & Felson, 1979:589).

Lifestyle Theory (Hindelang et al., 1978) is based on the notion that the probability of crime occurring is affected by the type of lifestyle an individual lives (i.e. risky, cautious, deviant, prosocial, etc.), which may be influenced by demographic characteristics. An individual who is exposed to crime frequently, or whose lifestyles lead them to risky places or engagement in risky activities, such as drug use, alcohol use, and going out at night, are more likely to be victimized (Jensen & Brownfield, 1986; Sampson & Lauritsen, 1990).

These ideas suggest that it may be the case that offenders who live a potentially dangerous, deviant lifestyle will have a higher likelihood of becoming a victim themselves. Plass and Carmody (2005) found that while lifestyles/routine activities were related to victimization, this was only the case for delinquent youths. This finding provides support for both a victim-offender overlap, as well as the importance of lifestyle/routine activities in predicting both victimization and offending. Other studies show support for lifestyle/routine activity factors and their association with victimization within school settings. For example, research shows the utility of lifestyle/routine activities in predicting victimization on college campuses (Fisher, Sloan, Cullen, & Lu, 1998; Tewksbury & Mustaine, 2003).

Jensen and Brownfield (1986) suggest that the routine activities construct is not completely appropriate for explaining likelihood of victimization. The authors found that it was deviant routine activities that were associated with victimization among

adolescents rather than other prosocial activities (Akers & Sellers, 2004). This suggests that perhaps there are other factors that influence the types of routine activities that an individual typically engages in beyond simply demographics and opportunity. For example, it is possible that self-control is the factor behind whether a person engages in deviant behavior, which in turn increases their likelihood of being victimized.

Self-Control

Self-control is featured in many studies that incorporate personality as a possible explicative factor in antisocial behavior (Caspi et al., 1997; Caspi et al., 1994; Cleckley, 1976; Hoyle, Fejfar, & Miller, 2000; Eysenck, 1994; Eysenck & Eysenk, 1976; Gottfredson & Hirschi, 1990; Knust, & Stewart, 2002; Krueger, Caspi, Moffitt, Silva, & McGee, 1996; Krueger et al., 1994; Wilson, Rojas, Haapanen, Duxbury, and Steiner, 2001; Zuckerman, 1979). In fact, it has been described as the most studied personality trait (Ellis and Walsh, 1999).

Pratt and Cullen (2000) reviewed the literature on the general theory of crime proposed by Gottfredson and Hirschi (1990) and found that low self control has consistently been shown to be related to criminal offending, self-reported delinquency, recidivism, other antisocial or “analogous behaviors,” and “negative outcomes” in general. These results also held across different samples including women, adolescents, different races, and offenders. Given the pattern of findings, the authors state that self control is “one of the strongest known correlates of crime,” with an effect size of .20, and that held even when other factors were included in the model.

Although self-control has usually been used to explain offending, it can also be related to victimization. Many of these dimensions of self-control that have traditionally been used to predict offending are also conducive to understanding victimization (Piquero et al., 2005). For example, the first dimension, failing to consider the future, can keep the victim from considering the consequences of his or her behavior. In this case, the individual would not alter their behavior or adopt safety measures in light of risk, inherently due to the fact that they cannot perceive the long term risks of their behavior. An individual high in a second dimension of self-control, self-centeredness, would be at risk for victimization by possibly angering others. For example, a self-centered individual will not usually acknowledge other people's needs over their own or sacrifice their own needs over someone else's, which could lead to a confrontation. A third dimension of self-control is anger. If an individual has anger problems or an explosive temper, this could lead to higher incidences of both provoked and unprovoked violence with others. Lack of diligence may also lower the likelihood of changing risky behavior due to the simple fact that the individual does not like to exert effort for any task including taking safety measures. Also, individuals who prefer physical tasks over cognitive skills may be more likely to resort to violence to solve problems rather than non-physical problem solving strategies. This type of person is more likely to use physical violence to end a confrontation rather than talking through the situation, which poses more of a chance of being victimized. Lastly, those who seek out risky situations (another element of self-control) are more likely to be victimized due to the fact that they place themselves in harm's way.

Recent studies have shown that self-control is, in fact, related to victimization. For example, Piquero, MacDonald, Dobrin, Daigle, and Cullen (2005) found that self-control was related to both violent offending and violent homicide victimization. Self-control has also been shown to predict both personal and property victimization among high school students (Schreck et al., 2002), college students (Schreck, 1999), and female offenders (Stewart, Elifson, & Sterk, 2004), even after including personal criminal behavior and demographics as covariates.

Also, victim and offender populations appear to substantially overlap, further justifying a focus on self-control within victimization research. There is a considerable amount of research showing this overlap between offending and victim populations (Broidy, Daday, Crandall, and Sklar, 2006; Coffey, Veit, Wolfe, Cini, & Patton, 2003; Esbensen & Huizinga, 1991; Laub and Valliant, 2000; Lauritsen, Laub, & Sampson, 1992; Lauritsen, Sampson, and Laub, 1991; Singer, 1981), which begs the question as to whether there is a common etiology between the two, possibly self-control.

Research shows that juvenile delinquents are more likely to experience several different types of victimization, including assault and robbery, compared to non-delinquents (Lauritsen et al., 1992; Lauritsen et al., 1991). Modest relationships between delinquent, antisocial behavior and mortality, specifically deaths from unnatural causes such as violent homicide, have also been found in juvenile (Laub & Valliant, 2000) and adult populations (Broidy et al., 2006). Yet, there are mixed results across studies that have tried to replicate these findings among juveniles in countries abroad, with both successes (Australia; Coffey et al, 2003) and failures (Canada; Regoeczi, 2000). Sparks (1982) suggests that this offender-victim overlap may be due to the lower probability of

offenders reporting victimization, perhaps because they feel police will not believe their accusation. This may in turn make such individuals attractive targets for offenders.

Of course this is not to say that all victims are offenders, nor are all offenders victims. There is most likely a population of victims that are discernible from the heterogeneous offender-victim population discussed in previous research and the present study. However, given the overlap that is sometimes found, it is reasonable to theorize that self-control may be an influential factor not only in offending behavior, but also in victimization. Schreck et al. (2002) refer to this link between self-control and victimization as a “logical compatibility” between individual and situational factors. These researchers demonstrated that despite being ignored in past research, individual traits, especially self-control, are just as important in victimization as they are in offending. Perhaps research showing the stability of victimization (Ousey, Wilcox, & Brummel, 2008; Pease & Laylock, 1996) as well as self-control (Caspi & Silva, 1995; Costa & McCrae, 1988; Gottfredson & Hirschi, 1990) is indicative of a relationship between the two. Researchers have even suggested that victimization is an example of the “crime-analogous behaviors” described by Gottfredson and Hirschi (Shreck, 1999). Yet, the existing research begs the question of exactly how self-control influences the likelihood of being victimized. In other words, through what mechanisms does the characteristic of self-control lead an individual to become victimized?

Fear and Risk Appraisal

Past research on fear of crime and victimization has mainly focused on describing the overall prevalence of fear throughout society. Yet, this construct may also be useful in

other research contexts. Specifically, fear may be a causal factor in certain instances in which fear influences an individual's behavior (e.g., avoiding risky situations). However, given recent arguments on the construct of fear, it has become necessary to define what exactly "fear of victimization" is and is not.

Numerous studies have illuminated the need for a reconceptualization of the broad construct of "fear of victimization" within empirical research (Gray, Jackson, & Farrall, 2008; Ferraro & LaGrange, 1987; Radar, 2004; Warr & Stafford, 1983; Wilcox-Rountree, & Land, 1996a; 1996b). Some suggest the need for more focused measurements of fear of victimization that consist of questions regarding specific events. For example, although they refer to fear of victimization as "worry about crime," Gray et al. (2008) propose reducing the scope of the questions on fear. Specifically, they suggest focusing on one specific event versus fear of all types of victimization without limitation on time span. They believe this could alleviate the problem of including individuals that worry about crime as a societal problem in general along with the potential inflation of the amount of fear individuals experience regularly in their daily lives. The more focused questions would help to get at actual physiological fear experienced by individuals on a daily basis rather than assessing their general opinion on whether crime is a problem within society. This distinction is important, particularly in contemporary American society. Given the amount of attention the media places on crime, many individuals may be concerned about crime, but not have a physiological reaction that could be described as fear.

There is also a debate whether there are two distinct constructs of fear (Ferraro & LaGrange, 1987; Wilcox-Rountree, & Land, 1996a; 1996b). The most commonly used

construct of fear consists of a cognitive assessment of the risk involved in an action or situation. This differs from the more biological definition of fear, which is characterized by a negative physiological response to an event or situation. It is important to realize that an individual can have higher perceptions of risk, yet fail to experience a physiological response of fear towards a situation and vice versa. The two constructs can also be positively related to one another with an individual rating a situation as high risk in addition to experiencing fear. Radar (2004) states that it is necessary to combine fear of victimization, risk perception, and constrained behaviors (or protective behaviors) under one term— “the threat of victimization.” He suggests this is due to the complex reciprocal relationship between each of these variables. While such an approach may efficiently combine these inter-related notions, they can also mask more subtle relations.

Driving home the argument for separate constructs of fear is research showing unique relationships between the two fear constructs and certain variables, such as different types of crime as well as age, sex, and race (Ferraro & LaGrange, 1987; Kanan & Pruitt, 2002; Wilcox-Rountree & Land, 1996a; Warr & Stafford, 1983; Wilcox, Augustine, Bryan, & Roberts, 2005). For example, Wilcox-Rountree and Land (1996a) found that whites and young people exhibit more of an emotional fear response to burglary-specific crime, which is in contrast to past research that has found minorities and elderly populations to be more fearful. This is most likely because the past research incorporated the cognitive risk perception and judgment as the conceptualization of fear. Thus, while minorities and the elderly may evaluate their risk of victimization to be high, whites and younger populations may actually be more emotionally fearful.

Traditional frameworks within criminology may be useful for defining and explaining the etiology of fear of victimization, as demonstrated by Kanan and Pruitt (2002). Importantly, the authors separate the different constructs of fear, including the more physiological fear response as well as the more cognitive risk appraisal construct. The researchers also list all applicable frameworks and supporting studies. The first framework included is the sociodemographic framework in which individual characteristics such as age and gender have been shown to be related to fear of victimization. Previous victimization, including direct and indirect forms of victimization, was also listed as a framework of interest. Social disorganization theories make up the next framework discussed by Kanan & Pruitt (2002), which suggests that traditional components of social disorganization theory (Shaw & McKay, 1942), such as crime rates, neighborhood disorder, cultural heterogeneity, and social integration, can be useful in explaining fear of crime and perceptions of risk within one's neighborhood. Routine activities and lifestyle theories make up another framework that has been used to explain fear of victimization, which proposes that the same elements that predict offending in routine activities/lifestyle theories (i.e. guardianship, target attractiveness, and motivated offender) can also affect perceptions of risk and fear.

Kanan & Pruitt (2002) found that routine activity/lifestyle factors and perceived disorder were the most consistent predictors of fear as well as perceived risk of victimization. Along these lines, Liska and Warner (1991) found that experiences with crime can affect later perceptions of fear, as measured by only the more cognitive risk appraisal construct. Specifically, those who no longer felt safe engaged in routine activities that were more cautious than before the initial victimization. This suggests that

there is a natural inclination to assess risk followed by a subsequent change in routine activities or typical behavior (Ferraro, & LaGrange, 1987; LaGrange, Ferraro, & Supancic, 1992; Mesch, 2000; Rader, 2004; Wilcox-Rountree & Land, 1996b). Wilcox et al. (2005) also found that previous victimization resulted in heightened risk perception and fear of victimization, measured separately, for school-based crime among middle school students in Kentucky. Because fear and risk demonstrated unique effects, this provides further support for exploring them independently. However, Melde (2009) found that adolescents engaging in delinquency were more likely to become victimized and that subsequent victimization lead to lower levels of physiological fear as well as cognitive risk appraisal. Melde's work implies that offender populations may express unique patterns of risk and fear that may not hold true for more general populations.

Along the lines of protective behaviors, Melde, Esbensen, and Taylor (2009) studied the influence of fear of victimization and risk perception on weapon carrying among youth. While weapon carrying may be more detrimental than beneficial in regards to fear and victimization, it still may be indicative of the tendency to engage in protective practices when perception of risk or fear is great (Liska & Warner, 1991). More generally, it may demonstrate the tendency to base one's lifestyle and routine activities on risk or fear of victimization (Ferraro, & LaGrange, 1987; LaGrange, Ferraro, & Supancic, 1992; Mesch, 2000; Rader, 2004; Wilcox-Rountree & Land, 1996a). Melde, Esbensen, and Taylor noted that risk perception seemed to be the main factor in weapon carrying rather than fear of victimization. The direction of this relationship also depended on offender/victim type and gang membership, once again highlighting the complexity of

the fear of victimization and risk perception issue when dealing with samples that are at-risk for offending.

As addressed by Wilcox, May, and Roberts (2006), the overreliance on cross sectional methods has exposed the fear of victimization and risk perception literature to temporal order issues. Without longitudinal data, there may be no way to interpret the true relationship between victimization, fear of victimization, and risk perception. Furthermore, offending behavior must be controlled for when studying weapon carrying, because there is a possibility that weapon carrying could have different reciprocal effects on subsequent fear/risk perceptions, or “feedback loops” (p.507). The researchers examined these issues longitudinally in a sample of middle school students and found that while fear of victimization was unrelated and risk perception weakly related to weapon carrying, the relationships were in a positive direction in that weapon carrying lead to greater fear of victimization, risk perception, and victimization. Thus, previous research illuminates the reciprocal relationship between fear/risk perception and victimization, as well as the potential importance of an individual’s behavior, specifically offending behavior, on fear, risk perception, and victimization.

Otis (2007) examined the role of lifestyle/routine activity variables and their relationship with fear of victimization and risk perception among homosexual populations. Results suggest that “individuals are rational actors whose fear is based on an actual perception of risk” (p. 214). However, findings were not clear-cut when considering past research on routine activities and fear of victimization. For example, the amount of time spent at bars was not significantly related to fear of victimization or perceived risk. Time spent at home was positively related to perceived risk and

positively, yet not significantly, related to fear of victimization. This is consistent with research that shows that those who engage in safety precautions are more likely to be fearful of victimization (Liska & Warner, 1991) and studies that propose that safety measures may actually be related to greater fear (Scott, 2003).

Radar, May, and Goodrum (2007) specifically examined the relationship between fear of victimization, perceived risk, avoidance behaviors (i.e. “Did fear of crime keep you from going out?”), and defensive behaviors (e.g., installing alarms or purchasing a gun for protection) through use of a telephone survey. This study also found a reciprocal relationship between each of these factors, illuminating the difficulty of studying these variables and their effects on behaviors. This illustrates the possibility that defensive and avoidant behaviors could actually increase levels of fear of victimization. Interestingly, results showed that perceived risk was unrelated to avoidance and defensive behaviors. This suggests that fear of crime, rather than risk perception, drives the relationship between these variables.

This review of some of the issues regarding fear of victimization and risk perception/appraisal illustrates the need for continued research on the etiologies, correlates, and predictors of each fear construct. Such research holds the potential of not just clarifying theoretical pathways, but benefiting society as a whole, as fear is often a driving force behind crime policies. Furthermore, the potential influence of fear of victimization and risk perception on an individual’s behavior suggests that future studies should focus on the mechanisms that explain why some individuals experience fear or perceive risk, and subsequently reduce their likelihood of victimization, and why others do not.

Fear and Self-Control

There is research that suggests that self-control, particularly low self-control, may be related to low levels of fear. For example, Zuckerman and Kuhlman (2000) showed that risk taking behavior is related to low self-control among college students. The authors posit that biological processes involving neurotransmitters such as dopamine, norepinephrine, and serotonin are behind risk taking behavior. This suggests that those who are low in self-control are physiologically unique from individuals high in self-control. For example, studies have found that low self control, low resting heart rate, and low levels of activation in the prefrontal lobes involved in executive functioning have been linked to serious juvenile offending (Cauffman et al., 2005), antisocial behavior and aggression (Moffitt et al., 1994; Sequin et al., 1995), and impulse disorders such as psychopathy (Gorenstein, 1982). These findings indicate that the relationship between self-control and offending may be due to low states of psychophysiological arousal. What they do not tell us is whether low fear mediates the relationship between self-control and victimization.

Following this line of reasoning, it may be that self-control is driving the physiological response of fear, which could affect risk appraisal of the individual's immediate environment and behaviors. The fear response and subsequent risk appraisal could then influence the situations and behaviors in which an individual engages. Also, considering the research discussed above in which those with low self-control show an inability to consider consequences of one's actions, it is reasonable to infer the possibility that self-control is related to lower risk appraisal. Therefore, self-control could be an underlying factor behind who is victimized and who is not, and fear of crime and risk

appraisal may be the mechanisms by which this relationship unfolds. This illustrates the potentially complex relationship between self-control, fear of victimization, risk perception/appraisal, and actual victimization.

The underlying explanation of the role of self-control in victimization is that those who are low in self-control will likely judge a situation as less risky, which increases the likelihood that they will be part of a dangerous or risky situation that can increase the chances of victimization (Schreck et al., 2006). Essentially, those who have low self-control will not consider the possible long term costs of risky behavior in comparison to the short term benefits, be it interacting with antisocial peers, offending, or any other behaviors that could increase the likelihood of victimization (Gottfredson & Hirschi, 1990).

Based on these assumptions, Schreck et al. (2006) illustrate this possible role of self-control in repeat victimization by examining whether those who were low (compared to high) in self-control and experienced a primary victimization were more likely to experience repeat victimization due to a failure to change risky behavior. Because prior research shows that previous victimization usually leads to being more cautious (Liska & Warner, 1991), Schreck et al. (2006) hypothesized that those who were high in self-control would alter their behavior due to a motivation of fear of future victimization (as measured by risk perception). This suggests that those who are low in self-control will have lower levels of risk perception. Therefore, fear, particularly through its influences on risk perception, may be the underlying mechanism by which a person with low-self control may be more likely to be victimized due to the fact that they are also more likely to be in a dangerous situation. Results showed that self-control did predict future

victimization beyond the effects of previous victimization, social bonds, and peer delinquency. Also, victimization was found to be stable for those low in self-control, but this stability could not be completely explained by self-control. Therefore, it is important to consider the possible influences of previous victimization on repeat victimization, as well as self-control. Other studies have extended the results of Schreck et al. (2006) illustrating a link between self-control, routine activities and personal victimization. For example, Holtfreter, Reising, and Pratt (2008) found a link between self-control and fraud victimization among adults. Holtfreter, Reising, Piquero, and Piquero (2010) found similar results among undergraduates.

Higgins, Ricketts, and Vegh (2008) conducted a study involving the role of self-control in fear of victimization. Specifically, they suggested that Hirschi's reconceptualization of self-control that is described as a person's ability to "consider the full range of potential costs (i.e., inhibitions) of a particular act" (p.225) should be related to Ferraro's idea of perceived risk (Ferraro, 1995). They tested this by examining the role of Hirschi's self-control construct in fear of online victimization in a sample of undergraduates. They hypothesized that those who were high in self-control, and could recognize the possible dangers (perceive the risk) associated with being part of the online community Facebook, would be more likely to fear online victimization. Therefore, risk perception would serve as a mediating factor between self-control and fear of online victimization. The reasoning is that those who are able to see potential negative outcomes and dangers will have more fear of victimization relative to those who are low in self-control and unable to foresee negative outcomes. Therefore, low self-control is indicative of low risk perception, which is related to low fear. Results supported the hypothesis that

risk perception mediates the relationship between self-control and fear. This study is consistent with Schreck's work, which proposes that offenders in particular may be more likely to become victims because they are low in fear (as measured by risk appraisal/perception). In this argument, those that are low in fear may be less likely to perceive a situation or action as dangerous or risky, which increases the likelihood they will engage in a risky action. However, it seems that the self-control construct used in the Higgins et al. 2008 study, as defined by Hirschi (2004), is operationalized as the ability to perceive negative consequences, which may be a potential problem since self-control is defined very similarly if not the same as risk appraisal (as measured by the question "How likely is [a negative consequence] to occur?"). The present study will include a different operationalization of self-control that involves more personality traits rather than specific behaviors, such as the ability to assess risk. This is more congruent with the work done by Schreck and colleagues.

It could be argued that risk perception or judging a situation as dangerous or risky is an intuitive requirement for experiencing the negative physiological response of fear. For example, in their review of the literature, Higgins et al. (2008) suggest that most of the studies on the diverging constructs of fear and risk perception show that cognitive risk perception drives the physiological response of fear. However, this may not be the case as there is a possibility that those who are low in fear could still judge a situation as risky. For example, Ferraro & LaGrange (1987, 1992) suggest that the discrepancies between past research and more recent research on fear of crime that separates the constructs of fear and risk appraisal are due to the fact that risk perception was not measured in past studies. Their findings suggest that young male populations may have lower

physiological fear responses (compared to older populations), despite having high risk appraisal of possible victimization. It is because of this that elderly populations were thought to have higher fear of victimization in studies that measured fear mainly as a physiological response. Also, it may be that high fear is almost always accompanied by high perceived risk.

Some studies have even found that those who are low in self-control actively seek out risky situations (Jones & Quisenberry, 2004; Zuckerman, 1994; Zuckerman & Kuhlman, 2000). In the case of individuals engaging in socially accepted and legal risky behaviors (e.g., skydiving), those low in self-control may have low fear, yet have higher or normal risk appraisal. This illustrates yet another possible relationship in which individuals with low fear, but high risk appraisal, may still have a greater likelihood of being victimized rather than only individuals with low risk appraisal.

The Present Study: Implications for Theory and Intervention

The present study will contribute more research on school victimization, specifically on the role of self-control, fear of victimization, and risk appraisal/perception in actual victimization. While some studies examining victimization have used adolescent samples, they have not specifically looked at school victimization (Lauritsen et al., 1991; Sampson & Lauritsen, 1990; Schreck, 1999; Schreck et al., 2003). Most studies involving school victimization have focused on college students rather than younger grades (Fisher et al., 1998; Mustaine & Tewksbury, 1998; Schreck et al., 2003). Lastly, factors that can potentially influence behavior, such as self-control, have not been widely examined in victimization and especially school victimization.

Self-control may help in predicting the physiological and emotional response of fear, as well as the cognitive process of risk appraisal/perception. These different manifestations of fear and risk of crime, might, in turn, influence the types of situations and contexts in which individuals find themselves. If individuals that are low in self-control are more or less likely to fear crime, this may shed light on the mechanisms behind engaging in risky behavior that may increase the likelihood of victimization. At the same time, this will build on studies that have proposed fear to be made up of two constructs by examining whether there are different relationships based on type of fear (Ferraro & LaGrange, 1987; LaGrange et al., 1992; Mesch, 2000; Rader, 2004; Wilcox-Rountree & Land, 1996b).

The present study hypothesizes that the relationship between low self-control and victimization will be mediated by fear and risk appraisal. Specifically, it is hypothesized that those low in self-control will be less likely to experience fear and less likely to have high risk appraisal. While the present study follows suit with past research suggesting that self-control is associated with low risk appraisal (Schreck et al., 2006), it is important to note that this hypothesis is relatively weak in that it has never been specifically tested. In addition, there is some evidence that individuals low in self-control may be more likely to have a hostile attribution bias increasing the likelihood that they will interpret environmental stimuli as harmful or risky (Dodge & Coie, 1987). Therefore, self-control may be related to low fear and both low and high risk appraisal. Furthermore, it is hypothesized that those low in self-control, low in fear, and low (or high) in risk appraisal will be more likely to be victimized.

By testing these hypotheses, the present study hopes to gain more insight into basic patterns, which, in turn, may assist in finding better prevention and intervention strategies. If the results of the current study do find a relationship between self-control and victimization, it may be useful to target those groups (those with low self-control and who were previously victimized) for preventative efforts. If there is a link between self-control, low fear or risk appraisal, and victimization, prevention efforts may center on teaching better risk appraisal techniques. Given potential evidence that those with low self-control have a harder time considering risks and consequences, this study may help illuminate the need to focus more intense prevention efforts on the population at most risk.

Chapter 3: Methods

Overview of the Data

Existing data from the Rural Substance Abuse and Violence Project (RSVP) was analyzed for this study using OLS linear regression. The RSVP project was a longitudinal study lasting from the years 2001-2004 that followed a sample of middle school students in Kentucky from the 7th grade until the 10th grade. The participants were evaluated on levels of substance use, criminal victimization, and criminal offending during the time period of the study. The current study analyzed data from the first and second waves of data collection which include data from 2001-2002, the years in which the participants were in grades 7 and 8. The present study only used two waves of data due to the fact that during the time span of data collection, the participants transitioned from middle school to high school. In order to avoid any confounding factors due to this transition, only the data collected before this transition occurred were analyzed. Moreover, the middle years are preferable for the current analysis because previous research indicates victimization is more prevalent among middle school populations than high school (Esbensen, 2008).

The respondent sample was selected using a stratified sampling procedure in which thirty counties were randomly selected. Seventy-four public schools were then selected from those counties. Sixty-five schools agreed to take part in the study. There were 9,488 seventh graders enrolled within these schools, which made up the target population. Active parental consent was used to obtain the final 43 percent of students,

totaling 4,102 participants. Out of this number, 3,692 students completed the survey in wave one and 3,638 in wave two (Ousey & Wilcox, 2007).

The low response rate of 43 percent is explained by Wilcox et al. (2006) as rather decent considering that an active parental consent procedure was used that consisted of a 2 month waiting period from initial to final contact through mail. The response rate of the RSVP is typical of research using active versus passive parental consent among student samples that report response rates for active consent between 35-60 percent (Ellickson & Hawes, 1989; Esbensen et al., 1996; Wilcox et al., 2006). Wilcox et al. (2006) also illustrate the fact that while active consent studies have the tendency to underreport risky behaviors, studies that are mainly examining relationships between variables rather than prevalence rates, such as the present study, may not suffer from this limitation of generalization as much as the latter type of study involving prevalence rates.

Wilcox, Tillyer, and Fisher (2009) explain that attrition rates in the RSVP sample are not influenced by race or gender. Table 1 shows this by reporting attrition rates based on percentage of white participants and male participants in wave 1 and wave 4.

Table 1. Percentage of sample white and male at waves 1 and 4. This table illustrates that attrition rates are not related to gender or race.

Race/Sex	Wave 1	Wave 4
White	90.5%	90.9%
Male	45.4%	45.9%

Table 2 also illustrates this point by reporting attrition percentages based on gender-race combinations.

Table 2. Breakdown of gender and race combined from wave 1 to wave 4. This table illustrates that attrition rates are not related to gender or race.

Race/Sex	Wave 1	Wave 4
Non-white males	4.8%	4.3%
Non-white females	5.0%	4.3%
White males	42.7%	42.2%
White females	47.5%	49.2%

However, it does seem that participants who dropped from the study were more likely to have experienced previous victimization than those who remained in the study (Wilcox et al., 2009). Specifically, the mean rate of victimization was higher for participants who dropped out of the study in each wave of data collection compared to

those who remained in the study. This is illustrated in Table 3 below. This may be indicative of the harmful and deleterious nature of victimization among school-aged adolescents. For example, victimization experiences may lead youth to drop out of school due to feelings of fear and not being safe in the school environment (Esbensen, 2008). This trend in attrition may also illustrate the overlap of offenders and victims (Broidy et al., 2006; Coffey et al., 2006; Esbensen & Huizinga, 1991; Laub & Valliant, 2000; Lauritsen et al., 1992; Lauritsen et al., 1991; Singer, 1981). In this case, the research showing a higher drop-out rate for offenders (Gottfredson & Hirschi, 1990) would also apply to victims, which could help explain the findings on attrition shown here.

Table 3. Mean rate of victimization broken down according to participants who dropped out of the study and those who remained until wave 4.

Wave	Mean rate of victimization of those who dropped from study	Mean rate of victimization of those who remained in study
Wave 1 to Wave 2	1.4	1.00
Wave 2 to Wave 3	1.5	1.06
Wave 3 to Wave 4	1.3	0.95

These results also support the choice of focusing on waves 1 and 2. That is, whatever bias that might be occurring as a result of attrition is exacerbated over time. Thus, relying on only the first two waves should minimize this potential issue.

The RSVP data have been used in other studies, which have relied on some of the same measures as presented in the current study (Ousey & Wilcox, 2005; Ousey & Wilcox, 2007; Ousey, Wilcox, & Brummel, 2008; Wilcox et al., 2005; Wilcox et al., 2006; Wilcox et al., 2009). Because this study was designed, in part, to assess the causes and correlates of victimization, many of the survey items are particularly useful in answering the research questions for the proposed study. For example, the survey includes questions on self-control as well as victimization. Victimization items include questions on how many times they have been victimized on school grounds or during school-related activities. Victimization experiences include being physically assaulted, robbed, and having property stolen on school grounds or during related activities.

The data work particularly well with the current research questions involving emotional fear and cognitive risk perception of victimization. Emotional fear is based more on the negative physiological response to the idea of victimization in certain situations, which can also be described as being afraid. Cognitive risk perception/appraisal has more to do with the chance or probability of being victimized (Ferraro & LaGrange, 1987). One can have high levels of one and not the other or can have the same levels of both. This study will try to explain whether certain individuals are more likely to have a certain risk/fear profile. For example, those who are low in self-control may also be lower in fear and risk appraisal than individuals high in self-control. These data are particularly useful because it separates these constructs into two distinct scales using these exact definitions. That is, one set of questions asks how often the participant felt afraid of being victimization, while the other set asks about how great they perceive the likelihood of victimization to be. (See Appendix A).

Prior victimization is also operationalized well by the dataset. The survey asks how many times they experienced the different types of victimization. To view the questionnaire in its entirety see appendix A.

Measures

Dependent Variable

Recent victimization was measured by a 5-item index in which the participants were asked to report the frequency with which they have been victimized on school grounds or during school-related activities for a number of different types of victimization, including being physically attacked, robbed, and assaulted with a weapon. The participants answered on a range from 0 up to 10+ depending on the amount of victimizations experienced in the current school year ranging from September to March. The scores were summed to create a composite. The dependent variable used in the analyses was victimization experienced at time two of data collection, which was during the year 2002 (See Appendix A). Because the distribution for the dependent variable was positively skewed, the log of victimization at time 2 was used during analyses.

Principle components analysis was performed on the 5 items making up the current victimization measure. This analysis revealed one eigenvalue higher than 1 (Eigenvalue: 2.778) and the largest difference in eigenvalues occurring between the first and second factors, thereby suggested a one-factor solution best fit the data. Factor loadings ranged from .615 to .855, as shown in Table 4. A reliability test was also performed on the 5-item current victimization scale. The Cronbach's alpha for the scale was .724. Descriptives for this scale can be found in Table 9.

Table 4. Items and Factor Loadings for the Measure of Victimization at Time 2.

In the current school year, how many times have you:	Factor Loadings
1. had a weapon pulled on you in 2002?	.855
2. had a gun pulled on you in 2002?	.804
3. been forced to give up your money or property in 2002?	.790
4. had money or property stolen when you were not around in 2002?	.631
5. been physically attacked in 2002?	.615

Cronbach's Alpha: .724

Independent Variables

Because past victimization is the best predictor of future victimization, previous victimization was also included as an independent variable in the present study. Like recent victimization, previous victimization was measured using a 5-item index in which the participants were asked to report the frequency with which they have been victimized on school grounds or during school-related activities for a number of different types of victimization mentioned above. The scale ranged from 0 up to 10+ depending on the amount of victimizations experienced in the school year ranging from the months September (2000) to March (2001) during the initial data collection (See Appendix A). Scores were summed to create a composite.

Principle components analysis on the 5-item scale also revealed a one factor solution with one eigenvalue higher than 1 (Eigenvalue: 2.917) and the largest difference in eigenvalues occurring between the first and second eigenvalues. Factor loadings of these items ranged from .595 to .865 (See Table 5 for specific items and factor loadings). A reliability test revealed a Cronbach's alpha of .737. Descriptives for this scale can be found in Table 9.

Table 5. Items and Factor Loadings of the Measure of Previous Victimization.

In the current school year, how many times have you:	Factor Loadings
1. had a weapon pulled on you?	.865
2. been forced to give up your money or property?	.836
3. had a gun pulled on you?	.827
4. had money or property stolen when you were not around?	.657
5. been physically attacked?	.595

Cronbach's Alpha: .737

Self-control was measured by a 12-item index that asked participants about their ability to regulate emotional and physical impulses. Questions include whether they believe they can control their temper, whether they lose control of their actions when angry, whether they are able to remain seated in class, if they can remain attentive during tasks, if they are easily distracted, and whether they get restless while remaining still. The respondents answered on a range from 1 ("never true") to 4 ("always true"). Scores were summed to create a composite. Data on self-control items were collected during the initial data collection year of 2001 (See Appendix A.)

Principle components analysis performed on these 12 items revealed a one factor solution was the best fit to the data, with one eigenvalue higher than 1 (Eigenvalue: 5.936) and the largest difference in eigenvalues occurring between the first and second eigenvalues. Factor loadings of specific items ranged from .62 to .76 as illustrated in Table 6 below. A reliability test produced a Cronbach's alpha of .907. Descriptives for this scale are included in Table 9.

Table 6. Items and Factor Loadings for the measure of Self-control.

Items	Factor Loadings
1. When I'm angry I lose control over my actions.	.763
2. I get so frustrated that I feel like a bomb ready to explode.	.756
3. I fly off the handle for no good reason.	.743
4. I have difficulty keeping attention on tasks.	.733
5. Little things or distractions/interruptions throw me off.	.706
6. I have trouble controlling my temper.	.701
7. I can't seem to stop moving.	.698
8. I am afraid I will lose control of my feelings.	.697
9. I get very restless after a few minutes if I am supposed to sit still.	.688
10. I have difficulty remaining seated at school.	.675
11. I'm nervous or on edge.	.648
12. I don't pay attention to what I'm doing.	.616

Cronbach's Alpha: .907

Fear of victimization was measured by a 5-item index in which the participants were asked to report how often they were afraid or worried that the types of victimization (mentioned above) would occur on school grounds or during school-related activities. The respondents answered on a scale from 1 to 5, with 1 meaning never, 2 meaning not

very often, 3 meaning sometimes, 4 meaning often, and 5 meaning always, depending on the frequency with which they fear victimization during the school year ranging from September (2000) to March (2001) at the time of initial data collection. (See Appendix A.) Scores were summed to create a composite.

Principle components analysis for these 5 items suggested a one factor solution. One factor had an eigenvalue higher than 1 (Eigenvalue=2.835) and the largest difference in eigenvalues occurred between the first and second eigenvalues as indicated by a scree plot. Factor loadings for the specific items ranged from .679 to .852 as shown in Table 7. A reliability test produced a Cronbach's alpha of .799. Descriptives for this scale are included in Table 9.

Table 7. Items and Factor Loadings for the Measure of Fear of Victimization.

How often are you afraid/worried that you will:	Factor Loadings
1. have a weapon pulled on you?	.852
2. have a gun pulled on you?	.816
3. be forced to give up your money or property?	.716
4. have money or property stolen from you when you are not around?	.684
5. be physically attacked?	.679

Cronbach's Alpha: .799

Risk appraisal was measured by a 5-item index in which the participants were asked to report the chance that the different types of victimization would occur on school grounds or during school-related activities during the school year ranging from September (2000) to March (2001). The participants answered on a scale from 1 to 5,

with 1 meaning very low, 2 meaning low, 3 meaning medium, 4 meaning high, and 5 meaning very high. (See Appendix A.) Scores were summed to create a composite.

Principle components analysis were performed on the 5-item risk appraisal scale. Results suggested a one factor solution with one eigenvalue higher than 1 (Eigenvalue=2.978) and the largest difference occurring between the first and second eigenvalues. This was evident in a scree plot. Factor loadings ranged from .700 to .850 for the specific items as illustrated in Table 8 below. A Cronbach's alpha of .816 was obtained from a reliability test. Descriptives for this scale are provided in Table 9.

Table 8. Items and Factor Loadings for the Measure of Risk Appraisal.

What is the chance that you will:	Factor Loadings
1. have a weapon pulled on you?	.850
2. have a gun pulled on you?	.809
3. be forced to give up your money or property?	.781
4. be physically attacked?	.708
5. have money or property stolen from you when you are not around?	.700

Cronbach's Alpha: .816

This distinction between emotional fear response and cognitive risk perception is important given research that shows that the two conceptualizations are inherently different with unique predictors. For example, whereas routine activity factors are better predictors of fear, at least in the case of burglary, other social factors such as neighborhood integration has been shown to predict risk perception (Rountree & Land,

1996a). This study will explore if there are unique relationships between the two different fear constructs and victimization.

Analyses

The analyses for the present study consisted of two parts. The first part included bivariate correlations in order to examine the relationships between each of the independent variables and the dependent variable of victimization at wave 2 of data collection. Ordinary Least Squares Regression was then used to perform a series of five regression models in order to further explain the relationships between the variables and victimization. Correlations addressed the first two research questions that involve whether those who are low in self-control are more or less likely to be fearful (as measured by both physiological fear response and risk perception). The direction of the relationship, in addition to the significance of the correlations between the specific variables, provided insight as to whether self-control is related to fear (as measured by both constructs) and whether self-control, fear, and risk are related to victimization. This also helped provide a basis for a mediation interpretation of the relationships in the regression models.

The other research questions addressed in the present study involve examining the possible mechanisms behind the relationship between self-control and victimization. In order to examine the possible mediating role of fear of victimization (as measured separately by the two distinct fear constructs), five regression models were used. The first model included control variables along with only self-control. The second model included control variables, self-control, and fear of victimization, followed by a model

with control variables, self-control, and only risk appraisal. The fourth model included control variables, self-control and previous victimization in order to establish whether self-control is related to victimization beyond the effects of previous victimization. The final model included all variables.

As suggested in Baron and Kenny (1986), the proposed analyses for these specific research questions must begin by distinguishing between a mediator and moderator in order to select the option that is most appropriate for answering the research questions. They establish a series of steps in order to test whether mediation or moderation best explains the possible relationship.

Within the relationship between the mediator and independent variable, the mediator is “caused by” the independent variable, as opposed to moderation in which the independent variable and moderating variable occur more or less at the same time temporally (Baron & Kennedy, 1986). Mediation also best explains mechanisms as in the case of the present study in which a goal of the research is to explain the mechanisms behind the relationship between self-control and victimization.

It is necessary to demonstrate an association between the independent variable and the mediator in order to establish mediation (Baron & Kennedy, 1986). Past research provides evidence for this relationship between self-control (the independent variable) and fear (the possible mediator variable) in the present study (Cauffman et al., 2005; Gorenstein, 1982; Higgins et al., 2008; Schreck et al., 2006; Zuckerman & Zuhlman, 2000). A relationship between the mediator and dependent variable must also be demonstrated. In this case there is also research illustrating the possible association

between fear and victimization (Melde et al., 2009; Wilcox et al., 2006). Despite findings from previous studies, these relationships will be empirically examined in the current analysis.

Past research also provides a basis behind utilizing mediation as an explanation for the relationship between self-control, fear, and victimization (Higgins et al., 2008; Schreck et al., 2006). In Higgins et al. (2008), perceived risk served as the mediator of the relationship between self-control and victimization. Schreck et al. (2006) also found that the self-control and victimization relationship was mediated by risk perception, in which involvement in risky activities was used as a measure of low risk perception. Based on the reasoning proposed by Baron and Kenny (1986), in addition to past research that has used mediation to explain the relationship between self-control and victimization (Higgins et al., 2008; Schreck, 2006), it seems appropriate to use mediation as an explanation of mechanisms examined in the current study.

In the present study, perceived risk also served as the possible mediating variable, yet another possible mediator (fear as defined as a negative physiological/emotional response) was examined in order to see if there are different relationships between the two distinct fear constructs (Ferraro, 1987). Perhaps only one is found to be the most likely “true” mediator, or both may mediate the relationship between self-control and victimization.

The present study hypothesizes that both perceived risk and fear of victimization will mediate the relationship between self-control and victimization (specifically low levels of each operationalization of fear). In addition to the studies mentioned previously

that have found evidence of a mediating relationship between self-control and victimization through fear (as measured by risk perception) (Higgins et al., 2008; Schreck et al., 2006) this hypothesis is based on the following reasoning. Research shows that there may be a victim-offender overlap in which those most likely to be victimized (males ages 18-24) are also more likely to offend (Broidy et al., 2006; Coffey et al., 2003; Esbensen & Huizinga, 1991; Laub and Valliant, 2000; Lauritsen et al., 1992; Lauritsen et al., 1991; Singer, 1981). Studies also show that offenders are less likely to be fearful, as indicated by low physiological fear response (Cauffman et al., 2005; Gorenstein, 1982; Zuckerman & Zuhlman, 2000). This suggests that a lower physiological response (i.e., less fear of victimization) may mediate the relationship between self-control and victimization.

The hypothesized mediating relationship between risk perception and self-control is not as clear cut. Some research has found that low risk perception is a mediator (Higgins et al., 2008; Schreck et al., 2008). However, there is also research that suggests individuals can judge a situation or behavior as high in risk, yet still engage in the activity most likely due to low fear (Jones & Quisenberry, 2004). Therefore, it is possible to have low fear and high risk perception. However, because this has not been explicitly tested, the present study bases the risk perception hypotheses on prior research findings and theorizes that low risk perception will also mediate the relationship between self-control and victimization.

The hypothesized mediation of fear (as measured by both the physiological and risk perception operationalizations) on the relationship between self-control and victimization is illustrated in Figure 1 below.

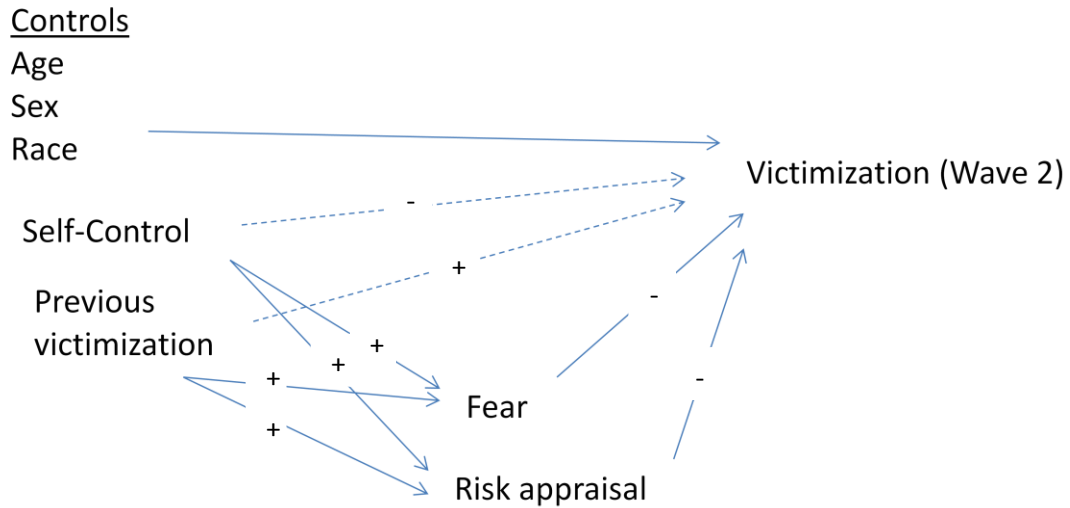


Figure 1. Conceptual Model of Victimization

Because Baron and Kenny (1986) recommend a series of regressions for a mediation model as opposed to the less useful ANOVA model, the current study ran five regression models. If self-control has no effect when the fear variables are controlled for, this is evidence of mediation. Also in the case of mediation, the correlations should show that self-control and fear variables are related, both fear variables are associated with victimization, and that self-control has no association with victimization after the two types of fear are entered into the model.

A limitation of the model is referred to as “feedback” (Baron & Kenny, 1986). This is where the mediator may or may not cause the dependent variable, which is not in accordance with multiple regression assumptions that the dependent variable does not cause the mediator. In the present study, it is quite possible that there are “feedback loops” (as referred to by Wilcox et al., 2006) in which victimization could very well “cause” a change in physiological fear response and perception of risk of victimization (Liska & Warner, 1991). While structural equation modeling would most likely be the

ideal model to use due to these limitations, multiple regression models are also beneficial given the exploratory nature of the present study.

Chapter Four: Results

Bivariate Correlations

The correlation matrix illustrated below in Table 9 includes Pearson's zero-order correlation coefficients for all five variables examined in the study, including victimization at the second wave of data collection, previous victimization (collected at wave 1), self-control, fear of victimization, and risk appraisal. While the variables were all significantly related to victimization at time 2 of data collection, only two relationships were in the expected direction. Previous victimization was moderately and positively related to victimization at time 2 ($r=.391$, $p<.001$). In fact, previous victimization was the most highly correlated with the dependent variable, which is consistent with research suggesting previous victimization is predictive of future victimization. In this sense, it is similar to antisocial behavior in that the best predictor of future behavior is past behavior. In addition, self-control was modestly related to future victimization (victimization at time 2; $r= -.218$, $p<.001$). Specifically, higher levels of self-control were related to lower levels of victimization at time 2.

Despite significant relationships with each of the other variables, none of the remaining relationships were in the hypothesized directions. For example, self-control was modestly and negatively related to both fear constructs. Specifically, higher levels of self-control were associated with lower levels of fear ($r= -.290$, $p<.001$) and lower levels of risk appraisal ($r=-.302$, $p<.001$). Higher levels of fear were associated with higher

victimization at time 2 ($r=.274$, $p<.001$). The same was true for risk appraisal with higher risk perceptions being related to higher victimization at time 2 ($r=.278$, $p<.001$).

Therefore, on one hand the research hypotheses were correct in suggesting that higher self-control is indeed related to lower victimization as well as being related to each of the fear constructs. However, on the other hand higher self-control was related to lower levels of fear and risk appraisal, which was inconsistent with past research (Shreck et al., 2006) and the current study's hypotheses. Recall, it was predicted that higher self-control should be related to more fear and risk, as such individuals are better able to perceive the risks and may be more easily physiologically aroused. In addition, higher levels on both fear constructs were related to higher victimization, which is not consistent with research or the current hypotheses.

Another important observation is the fact that fear of victimization and risk appraisal are very strongly correlated ($r=.705$, $p<.001$). Despite research suggesting that these factors are unique constructs (Ferraro & LaGrange, 1987; Wilcox-Rountree, & Land, 1996a; 1996b), this correlation shows a considerable overlap. Perhaps the operationalization used in the present study does not accurately portray each of the constructs, resulting in the failure to distinguish between the two factors conceptually. (This notion will be elaborated on further in the Discussion section.)

Table 9. Bivariate Correlation Matrix.

	Mean	SD	1	2	3	4
1. Victimization at Time 2 Logged (DV)	4.21	6.91				
2. Victimization at Time 1	4.66	7.26	.391**			
3. Fear of Victimization	8.85	4.07	.274**	.487**		
4. Risk Appraisal	8.82	3.96	.278**	.520**	.705**	
5. Self-control	37.3	8.29	-.218**	-.322**	-.290**	-.302**

**p<.001 two tailed test

Ordinary Least Squares (OLS) Regression

In order to test further the nature of the relationships described above, ordinary least squares regression models were used while controlling for sex, age, and race. Specifically, five regression models were performed in which the dependent variable, victimization at time two, was regressed on each of the variables theorized to be related to victimization. The first model included sex, age, and race of the participant as well as self-control. The second model included these variables in addition to fear of victimization. The next model included control variables, self control, and risk appraisal. The fourth model included control variables and self-control, yet replaced risk appraisal

with previous victimization, followed by a final model that included control variables and each of the four remaining variables. This series of regression models will allow for comparison between the models in order to see which variables have a stronger causal relationship with the dependent variable of victimization and whether there is a mediating relationship between self-control and both fear of victimization and risk appraisal.

Model 1

Model 1 regressed victimization (at time two) on self-control while controlling for sex, age, and race of the participant. Results are presented in Table 10 below. Overall, the ANOVA revealed that the model was a good fit to the data and was statistically significant ($F=51.757$, $p<.001$). The model was able to account for 6.1% of the variance in victimization at time two of data collection. As expected, self-control was a significant predictor of victimization and was negatively related to the dependent variable, confirming earlier bivariate findings ($\beta= -.204$, $p<.001$). Therefore, those who are higher in self-control are less likely to be victimized over time. Gender was also shown to be a significant predictor of later victimization ($\beta= -.126$, $p<.001$) with males being more likely to be victimized.

Model 2

As shown in Table 10, model 2 included all of the variables in model 1 and fear of victimization in the model. The ANOVA showed the model was significant ($F=78.771$, $p<.001$) and a good fit to the data. Model 3 accounted for 11.1% of the variance of victimization at time 2 of data collection. Gender, self-control, and fear were all significant predictors in the model ($\beta= -.131$, $p<.001$; $\beta= -.137$, $p<.001$; $\beta= .236$, $p<.001$,

respectively). Fear had the strongest effect on victimization compared to self-control and gender. Moreover, there was some evidence of mediation in that the effect of self-control was reduced by nearly 33%. However, as in the bivariate results, the direction of the relationship was inconsistent with past research and the hypotheses for the present study. OLS regression showed that individuals with high fear are more likely to experience future victimization in contrast to the hypothesis that those who are low in fear will be the most likely to be victimized. It is also important to notice that, although it had a weak effect, self-control still remained significant when fear of victimization was included into the model although there was a decline in its effect.

Model 3

Results from model 3 are presented in Table 10 below. This model included self-control and risk appraisal in addition to the control variables. Fear of victimization and previous victimization were not included in Model 3. The ANOVA revealed that the model was a good fit to the data and significant ($F=79.176$, $p<.001$). Model 3 accounted for 11.2% of the variance of victimization at time two of data collection. Gender, self-control, and risk appraisal were significant predictors of future victimization ($\beta= -.130$, $p<.001$; $\beta= -.136$, $p<.001$; $\beta= .238$, $p<.001$, respectively). Risk appraisal had the strongest relationship to victimization at time 2 and was positively related to the dependent variable. Therefore, those who have higher levels of risk appraisal are more likely to be victimized. These findings are consistent with earlier bivariate findings, yet are in contrast to hypotheses for the current study. Past research and current hypotheses predicted that those who are low in risk appraisal would be more likely to be victimized. However, as in earlier models it is important to note that self-control is still a significant

predictor of victimization although the relationship is somewhat weak (by approximately 33%). As in the model including fear of victimization, there is evidence of mediation.

Model 4

Results from Model 4 are also presented in Table 10 below. Model 4 includes all of the variables from model 1 with the addition of previous victimization. The ANOVA shows that the model is a good fit to the data and significant ($F=127.140$, $p<.001$), accounting for 17.0% of the variance of victimization measured at time 2. Gender, self-control, and previous victimization were all significant predictors of future victimization ($\beta= -.071$, $p<.001$; $\beta= -.103$, $p<.001$; $\beta= .352$, $p<.001$, respectively). Although it was a weak relationship, being male resulted in higher victimization at time two. As found in bivariate findings and in the earlier model, higher self-control resulted in lower victimization at time two although this was a weak negative relationship. Notably, the effect of self-control was reduced by around 50% compared to its effect in Model 1. Previous victimization had the strongest effect on future victimization, which was also shown in previous bivariate findings.

Model 5

The final regression model included all variables included in the previous series of regressions. Results for model 5 can be viewed in Table 10 below. The ANOVA shows the model was a good fit to the data and significant ($F=95.939$, $p<.001$), accounting for 17.8%% of the variance of victimization at time two of data collection. Gender, self-control, fear of victimization, risk appraisal, and previous victimization were all significant predictors of future victimization (victimization at time 2) ($\beta= -.084$,

$p < .001$; $\beta = -.082$, $p < .001$; $\beta = .078$, $p < .001$; $\beta = .048$, $p = .042$; $\beta = .293$, $p < .001$, respectively). Previous victimization proved to be the strongest predictor of future victimization with a modest positive relationship with the dependent variable. Therefore, those who were victimized previously were more likely to be victimized in the future. Self-control still remained significant when the other variables were included in the model, suggesting there is still some direct effect, but the effect weakens (by around 60%) when other variables are added. Fear was also statistically significant, albeit a weak effect. While risk also had a weak effect on future victimization, it was only marginally significant when all variables were included in the model ($\beta = .048$, $p = .048$). These effects were also in the opposite direction as expected with higher fear and risk leading to high rates of victimization at time 2.

Table 10. OLS Regression Results

Variables	Model 1			Model 2			Model 3			Model 4			Model 5		
	b	se	β	b	se	β	b	se	β	b	se	β	b	se	β
Sex (Male)	-.255**	.035	-.126	-.265**	.035	-.131	-.265**	.035	-.130	-.145**	.034	-.071	-.170**	.034	-.084
Birth Year	.033	.031	.019	.022	.030	.012	.024	.030	.014	.045	.029	.026	.037	.029	.021
Race	.013	.065	.003	.035	.064	.009	.050	.064	.013	.035	.062	.009	.042	.062	.011
Self-control	-.025**	.002	-.204	-.017**	.002	-.137	-.017**	.002	-.136**	-.013**	.002	-.103	-.010**	.002	-.082
Fear of Victimization				.060**	.004	.236							.020**	.006	.078
Risk Appraisal							.063**	.005	.238				.013*	.006	.048
Previous Victimization										.054**	.003	.352	.045**	.003	.293
Adjusted R²	.061			.111			.112			.170			.178		

**p<.001 two tailed test

*p<.05 two tailed test

Chapter 5: Discussion and Conclusions

The goal of the present study was to contribute more research on school victimization, specifically by explaining the role of self-control, fear of victimization, and risk appraisal/perception in actual victimization. This could be potentially very useful since most studies, even those examining victimization among adolescent samples, have not specifically looked at school victimization (Lauritsen et al., 1991; Sampson & Lauritsen, 1990; Schreck, 1999; Schreck et al., 2003) and have not examined younger grades (Fisher et al., 1998; Mustaine & Tewksbury, 1998; Schreck et al., 2003). Also, factors such as self-control have not been widely examined in victimization and especially school victimization.

Past research suggests that self-control is not only related to offending behavior, but is also an important factor in victimization (Higgins et al., 2008; Piquero et al., 2005; Schreck, 1999; Schreck et al., 2002; Schreck et al., 2004; Schreck et al., 2006). However, there is a relative dearth of information regarding the mechanisms behind the role of self-control in victimization. For example, some studies have proposed that fear/risk appraisal mediates the effect of self-control (specifically low self-control) on future victimization (Higgins et al., 2008; Schreck et al., 2006). The present study sought to examine this possible mediating role of fear with the added feature of two separate constructs of fear; a physiological response of fear versus a more cognitive risk appraisal, as proposed by past

research on fear of victimization (Ferraro & LaGrange, 1987; Wilcox-Rountree, & Land, 1996a; 1996b).

Specific hypotheses included a significantly negative relationship between self-control and future victimization, in which those higher in self-control would have lower victimization at time 2. It was also hypothesized that there would be significant negative relationships between both fear constructs and future victimization. These correlations would provide support for the regression models to follow that would examine possible mediation effects of the fear constructs on the relationship between self-control and victimization. In addition, significant positive relationships between self-control and each of the fear constructs were expected to be found suggesting that those low in self-control would have lower levels of fear and risk (and conversely, those higher in self-control would experience higher levels of fear and risk). This would provide initial evidence of possible mediation to be examined further through OLS regression. However, it was also acknowledged that those low in self-control could still potentially have higher levels of risk appraisal, but would nonetheless exhibit lower physiological fear response which could lead to victimization.

However, bivariate correlations and a series of OLS regressions revealed that despite significant relationships between all the variables mentioned above, only self-control had the expected relationship, with those higher in self-control experiencing less victimization at time 2. While self-control was also related to both fear constructs, and both fear constructs were related to future victimization, these relationships were not in the expected direction as hypothesized. Specifically, those who were low in self-control

were more likely to have higher fear of victimization and risk appraisal. Also, higher levels of fear and risk appraisal were related to higher victimization at time 2.

These bivariate findings were confirmed by OLS regression. While there was some evidence of mediation given the fact that the effect of self-control was reduced when the fear constructs were separately added into the model, it is important to note that self-control remained significant. This suggests self-control has a direct, albeit weak, effect on victimization, net of fear and risk appraisal (and previous victimization and controls). Therefore, the hypotheses were supported in that self-control operated through fear of victimization and risk appraisal. However, the direction of this mediation was not in accordance with the hypotheses. Overall, previous victimization was the best predictor of future victimization at time two of data collection, accounting for more of the variance compared to the models with only self-control, only fear of victimization, and only risk appraisal. While previous victimization consistently had a modest effect on victimization at time 2 in both models that included the variable (Model 4: $\beta = .352$, $p < .001$; Model 5: $\beta = .293$, $p < .001$), the effect of self-control declined once previous victimization was included in model 4 (from $\beta = -.204$, $p < .001$ in model 1 to $\beta = -.103$, $p < .001$ in model 4). In model 5, which included all variables of interest, effect sizes declined for self-control ($\beta = -.204$, $p < .001$ in model 1 to $\beta = -.082$, $p < .001$ in model 5), fear of victimization ($\beta = .236$, $p < .001$ in model 2 to $\beta = .078$, $p < .001$ in model 5), and risk appraisal ($\beta = .238$, $p < .001$ in model 3 to $\beta = .048$, $p < .05$ in model 5).

Possible reasons that the hypotheses were not supported include inaccurate conceptualization of the two fear constructs, especially the physiological interpretation of fear. Fear of victimization was measured in the form of the question, “How often are you

afraid/worried that...” followed by 5 crime scenarios. Perhaps this did not properly distinguish between the more cognitive construct of risk appraisal. This is evident in the high correlation between the two fear constructs ($r=.705$). It is possible that respondents were not able to distinguish between the more physiologically-based notion of fear, and the more cognitive assessment of risk, and simply answered both similarly. Stated differently, asking adolescents to indicate how “afraid/worried” they were of victimization seemed very similar to them to the questions inquiring about the likelihood of victimization. Future research should recognize that this distinction may fail to be recognized by adolescents.

Another potential problem is that the question pertains to the whole school year rather than a specific event. In fact, past research has suggested this practice to be problematic in that some individuals relate the notion of worry to being a more general concern about crime and victimization in society, as opposed to specific events that may affect them (Gray et al., 2008). Gray and colleagues proposed adding filter questions in addition to the typically asked question, “In the past year, have you felt worried...” They propose asking a second question, “How frequently in the last year have you been worried...” followed by a third and final question, “On the last occasion how fearful did you feel?”

To elaborate on this idea further, it is possible that including the word “worry” within the question may have also caused participants to relate the term to risk and likelihood of victimization rather than emotional discomfort of being fearful. By incorporating the filter questions that begin at a more general level of “worry” and progress into more specific questions inquiring about “fear,” individuals will better

understand the type of negative physiological response that they are being asked to report on rather than the more cognitive feeling of worry and perception of risk that is suggested in the first question. In addition to filter questions, future research might use specific scenarios or vignettes to better capture feelings of fear. It may also be useful for future research to investigate possible differences in understanding of these questions for adolescents versus adults. Adolescents might, on average, interpret these questions differently from their adult counterparts.

Risk appraisal also had a positive effect on future victimization such that those with higher risk appraisal were more likely to be victimized. While this is inconsistent with Schreck and his colleagues' position that victimization is due to low risk appraisal, existing literature may be able to account for this finding. As acknowledged previously, some research shows that it is possible for individuals to experience low fear, yet still have high risk appraisal. For example, some individuals, especially those low in self-control, may engage in sensation seeking behaviors in which they seek out risky situations or activities, including offending behavior, due to their low physiological reactions (Jones & Quisenberry, 2004; Zuckerman, 1994; Zuckerman & Kuhlman, 2000). Therefore, high or normal risk appraisal may be more predictive of greater victimization when assuming there is an overlap between offending (risky) behavior and victimization as suggested in the review of the literature. An individual may be capable of acknowledging that a behavior or situation is risky, yet may not be fearful due to a tendency to have low physiological responses and arousal. In fact, these individuals may seek out high risk situations in order to fill this physiological void and experience arousal.

Considering the association between low self-control and sensation seeking, future research should further investigate the finding from the current study that high risk appraisal is associated with increased victimization. However, it may be necessary in future research to distinguish between the negative physiological discomfort of fear and the less negative physiological arousal that one may experience when engaging in sensation seeking behavior. Past research suggests that it is the combination of low self-control, high or normal risk appraisal, and low physiological arousal that results in risky, and in some cases illegal behavior (Jones & Quisenberry, 2004; Zuckerman, 1994; Zuckerman & Kuhlman, 2000), it may be that individuals find it hard to distinguish between fear (negative physiological arousal) and arousal (in this sense positive or euphoric arousal). Perhaps some individuals in the current study were mistaking their arousal (positive physiological reaction) for fear (negative physiological reaction) and are in actuality lower in fear.

A rational choice perspective may also be useful in explaining the finding that those higher in risk appraisal and fear are more likely to be victimized. It may be the case that individuals who operate rationally according to the theory accurately perceive their level of threat and risk of victimization. Therefore, higher levels of fear and risk appraisal are justified in the sense that these individuals were indeed victimized at a higher rate.

Alternatively, it may be the case that the current findings of low self-control, high risk appraisal, and high fear lead to increased future victimization illustrate a personality profile known to be associated with severe antisocial behavior. For example, past research shows that high levels of negative emotionality and low levels of constraint are predictive of antisocial behavior across gender, race, countries, and methodologies (Caspi

et al., 1994). In the present study, high risk appraisal and high fear could be indicative of high negative emotionality and low self-control may represent low constraint.

Considering the victim/offender overlap described earlier, it may be logical to assume that high negative emotionality and low constraint are important factors in explaining victimization as well as offending, and that high levels of fear and risk appraisal are indicators of negative emotionality.

In relation to negative emotionality, existing research on the hostile attribution bias may also be useful in explaining the current findings. The hostile attribution bias describes a social information processing system in which individuals perceive environmental stimuli as threatening or harmful and have trouble inhibiting their behavior in response to these threatening stimuli (Dodge & Coie, 1987). It is possible that high fear and risk appraisal are indicative of the negative emotionality involved in hostile attribution bias. Following this line of reasoning, research on the victim/offender overlap would suggest that the hostile attribution bias could be an important factor in victimization and explain how some individuals may be more likely to be victimized, yet exhibit low self-control, high levels of fear, and high risk appraisal.

Lykken's work would appear to support such an interpretation. While he uses draw upon traits such as negative emotionality and constraint to develop a typology for psychopathy, his description of two important neurological systems that modulate behavior [the Behavioral Inhibition System (BIS) and the Behavioral Activation System (BAS)] may be useful in explaining the results of the current study (Gray, 1982; Lykken, 1995). The BIS is responsible for alerting individuals to cues of punishment. In other words, this neurological system allows people to recognize negative consequences

associated with a situation or action, which in a functional system that inhibits the individual's behavior in order to avoid punishment. In contrast, the BAS allows individuals to perceive rewards in certain situations and actions (Gray, 1982). Lykken proposed that there are two subtypes of psychopathy. Whereas primary psychopaths were characterized by low functioning in the BIS and low fear or anxiety (low physiological arousal), secondary psychopaths are more likely to exhibit high negative emotionality and physiological arousal and have increased functioning in the BAS. Lykken stated that primary psychopathy is extremely rare compared to the much more prevalent secondary psychopathy. Assuming that psychopathic traits can be regarded as existing along a continuum and that all individuals can exhibit certain personality traits associated with psychopathy without meeting the threshold (Derefinko & Lynam, 2007), the results of the present study could be in accordance with Lykken's theory that suggests individuals fitting the secondary typology (characterized by high negative emotionality and high physiological arousal) are more prevalent within society. Furthermore, higher BAS functioning may explain low self-control in this case and high fear and risk appraisal could be indicators of negative emotionality. Again, while these theories are typically used to explain or predict offending behavior, research showing an overlap in offender and victim populations suggests that these explanations will also pertain to research on victimization.

Other work focusing on the primary typology of psychopathy described briefly above may also be useful in explaining the current study. A great deal of research on psychopathy suggests that impulsivity, or low self-control, is an important factor in identifying and defining psychopathy, particularly primary psychopathy (Hare, 2003). In

addition to the more behavioral elements of self-control included in the current measure of self-control, most research on psychopathy includes factors measuring callous/unemotional traits, otherwise described as low agreeableness. By definition, these individuals have a disregard for other's feelings and emotions, which is also one of the six key elements of self-control described by Gottfredson and Hirschi (1990) in their general theory of crime. Considering that these callous/unemotional traits are central to the definition of impulsivity indicative of psychopathy (Barry et al., 2000; Cleckley, 1976; Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999; Hare, 2003; Loney, Butler, Lima, Counts, Eckel, 2006) and that psychopathy is associated with lower physiological arousal and fear reactions (Gorenstein, 1982; Lykken, 1995), it is possible that the absence of a negative relationship between fear and victimization is due to the exclusion of the callous/unemotional element of impulsivity. In other words, perhaps the current study did not include within the measure of self-control all aspects of self-control suggested by Gottfredson and Hirschi (1990) thereby attenuating the relationship between fear and victimization. Instead, the current measure of self-control may be tapping into the personality trait of neuroticism, which would probably increase both risk appraisal and fear levels.

Another alternative explanation for the finding that high levels of fear lead to higher levels of victimization could be indicative of the "feedback loop" proposed by Wilcox et al. (2006). In their study, weapon carrying resulted in higher levels of fear, risk perception, and actual victimization. Therefore, taking precautions or engaging in behaviors that are thought to be protective, but that in actuality increase the likelihood of victimization, such as weapon carrying, may not only increase the likelihood of

victimization, but may also increase fear of victimization. Some research shows that taking safety precautions actually results in higher fear (Liska & Warner, 1991; Scott, 2003). If these safety precautions are faulty and in fact cause the individual to devote more attention to potential victimization, this could result in high fear and increase likelihood of victimization. Future research on fear and risk appraisal should include protective behaviors as well as offending behavior such as weapon carrying. Including such variables in future models is especially important considering the current results that fear and risk appraisal did in fact have some mediating effect on self-control, yet could not explain the whole effect of self-control on victimization. This suggests that there may be a third variable not yet measured that could better explain the relationship between self-control and victimization.

In addition to the inclusion of additional variables already mentioned, such as weapon carrying or safety precautions, routine activities such as offending behavior should also be examined within the models. As proposed by Schreck et al. (2006), low self-control may lead to low fear or risk appraisal, which in turn increases the likelihood that the individuals will be involved in risky behaviors that increases their chances of victimization. Melde (2009) also posits that youth who engage in delinquent behavior will have different fear/risk profiles as those who do not. Therefore, low self-control or low fear may only be a significant predictor of victimization when the individual is also engaging in delinquent behavior. In addition, future models should include school variables. It could be that participants in the study were high in fear and risk appraisal because there was a genuine need to be fearful if their school was in a high crime area. As mentioned previously, future research could also benefit from better measures of the

constructs involved. For example, measures that better distinguish between the two constructs of fear are needed to accurately assess the possible role of mediation in the relationship between self-control and victimization.

Beyond the measurement issues addressed above, there are limitations regarding the sample as well. The current study collected data from middle-school students in 7th and 8th grade. Results may not generalize to students in higher grades such as high school or adult samples. In addition, while there are benefits to studying victimization within a smaller controlled context such as the school, another limitation is the fact that the current study only examined school victimization. Perhaps the results would have been different within a different sample involving all types of victimization in all areas of one's life rather than restricting the research to one environment and specific type of victimization.

The low response rate of 43 percent may also be seen as a limitation, although it is explained by Wilcox et al. (2006) as typical of research using active versus passive parental consent among student samples that report response rates for active consent between 35-60 percent (Ellickson & Hawes, 1989; Esbensen et al., 1996; Wilcox et al., 2006). Also, an examination of participants who did not continue in the study revealed they were more likely to have experienced previous victimization than those who remained in the study (Wilcox et al., 2009). This also illustrates another limitation in which those most likely to be victimized may not be present in school. Whether they are hospitalized due to victimization or are less likely to attend due to feelings or fear or other negative feelings (e.g., guilt or alienation) stemming from victimization, there is a chance that the present study did not get a true representation of those most likely to be

victimized. On a similar note, because those lower in self-control may also be more likely to be absent from school (due to truancy, expulsion, incarceration, or dropping out) the current results may not adequately represent those lowest in self-control. However, if this is indeed the case, the relationships found in the current study may be attenuated.

Despite these limitations and the lack of support for some of the hypotheses proposed, the present study illustrates the influence of self-control in predicting victimization rather than solely explaining offending behavior. It also shows the importance of investigating mechanisms behind causal relationships. Future work should continue to examine the mediating roles of fear and risk appraisal in order to better explain the relationship between self-control and victimization. Once this phenomenon is better understood, prevention and intervention techniques can be implemented in order to better target individuals for more effective programs in order to reduce overall victimization, as well as school victimization.

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Appendices

Appendix A: Survey

Demographics

1. What is your sex?

a) Male

b) Female

2. What is your date of birth?

_____/_____/_____
(Month) (Day) (Year)

Example: 06/09/88

3. How do you describe yourself?

a) African-American

e) White

b) Asian-American

f) White and Black

c) Hispanic American

g) Other

d) Native-American

Appendix A (Continued)

Fear of Victimization

4. In the current school year, how often are you afraid that the following will happen to you *on school grounds or during school-related activities* (example: in class, on a school bus, at football game, on fieldtrip, and so on?)

Never	Not very often	Sometimes	Often	Always
(1)	(2)	(3)	(4)	(5)

How often are you afraid/worried that you will...

- | | | | | | |
|---|---|---|---|---|---|
| a) be physically attacked (example: punched, slapped, kicked) | 1 | 2 | 3 | 4 | 5 |
| b) be forced to give up your money or property | 1 | 2 | 3 | 4 | 5 |
| c) have money or property stolen when you are not around | 1 | 2 | 3 | 4 | 5 |
| d) receive unwelcome sexual remarks from someone | 1 | 2 | 3 | 4 | 5 |
| e) be touched by someone in a sexual manner without your consent or against your will | 1 | 2 | 3 | 4 | 5 |
| f) have a gun pulled on you | 1 | 2 | 3 | 4 | 5 |

Appendix A (Continued)

g) have a weapon pulled on you (knife, brass knuckles,
and so on, other than a gun) 1 2 3 4 5

Risk Perception

5. In the current school year, what is the chance that the following will happen to you *on school grounds or during school-related activities*?

Very low	Low	Medium	High	Very high
(1)	(2)	(3)	(4)	(5)

What is the chance that you will...

a) be physically attacked (example: punched, slapped, kicked) 1 2 3 4 5

b) be forced to give up your money or property 1 2 3 4 5

c) have money or property stolen when you are not around 1 2 3 4 5

d) receive unwelcome sexual remarks from someone 1 2 3 4 5

e) be touched by someone in a sexual manner without your
consent or against your will 1 2 3 4 5

Appendix A (Continued)

f) have a gun pulled on you 1 2 3 4 5

g) have a weapon pulled on you (knife, brass knuckles,
and so on, other than a gun) 1 2 3 4 5

Actual Victimization

6. In the current school year, how many times have the following things actually happened to you on *school grounds or during school-related activities*?

a) been physically attacked (example: punched, slapped, kicked)

0 1 2 3 4 5 6 7 8 9 10+

b) been forced to give up your money or property

0 1 2 3 4 5 6 7 8 9 10+

c) had money or property stolen when you were not around

0 1 2 3 4 5 6 7 8 9 10+

Appendix A (Continued)

d) received unwelcome sexual remarks from someone

0 1 2 3 4 5 6 7 8 9 10+

e) been touched by someone in a sexual manner without your consent or against your will

0 1 2 3 4 5 6 7 8 9 10+

f) had a gun pulled on you

0 1 2 3 4 5 6 7 8 9 10+

g) had a weapon pulled on you (knife, brass knuckles, and so on, other than a gun)

0 1 2 3 4 5 6 7 8 9 10+

Risky Behavior (including offending behavior)

7. In the present school year, how often have you done any of the following...

Appendix A (Continued)

	Less than	About once	About 1-2	Daily or	
Never	once a month	a month	time per week	almost daily	
(1)	(2)	(3)	(4)	(5)	
a) smoked cigarettes?				1 2 3 4 5	
b) smoked cigars?				1 2 3 4 5	
c) used spit tobacco?				1 2 3 4 5	
d) drunk alcohol?				1 2 3 4 5	
e) gotten drunk?				1 2 3 4 5	
f) smoked marijuana?				1 2 3 4 5	
g) used inhalants (huffing)?				1 2 3 4 5	
h) used cocaine/crack?				1 2 3 4 5	
i) used speed?				1 2 3 4 5	
j) used crystal meth?				1 2 3 4 5	

Appendix A (Continued)

k) taken ecstasy?	1	2	3	4	5
l) taken OxyContin?	1	2	3	4	5
m) taken other pills?	1	2	3	4	5
n) sold marijuana or other drugs?	1	2	3	4	5
o) skipped school?	1	2	3	4	5
p) forced someone <i>at school</i> to give up their money or property?	1	2	3	4	5
q) forced someone not at school to give up their money or property?	1	2	3	4	5
r) stolen someone's money or property <i>at school</i> when they were not around?	1	2	3	4	5
s) stolen someone's money or property <i>not at school</i> when they were not around?	1	2	3	4	5
t) physically attacked someone <i>at school</i> ? (punched, slapped, kicked)	1	2	3	4	5

Appendix A (Continued)

u) physically attacked someone <i>not at school?</i> (punched, slapped, kicked)	1	2	3	4	5
v) been suspended/expelled from school?	1	2	3	4	5
w) said unwelcome sexual remarks to someone <i>at school?</i>	1	2	3	4	5
x) said unwelcome sexual remarks to someone <i>not at school?</i>	1	2	3	4	5
y) touched someone in a sexual manner without their consent or against their will <i>at school?</i>	1	2	3	4	5
z) touched someone in a sexual manner without their consent or against their will <i>not at school?</i>	1	2	3	4	5
aa) taken a BB gun to school?	1	2	3	4	5
bb) taken a gun to school?	1	2	3	4	5
cc) taken an explosive to school?	1	2	3	4	5
dd) taken another weapon to school (knife, brass knuckles,	1	2	3	4	5

Appendix A (Continued)

and so on, other than a gun or explosive)?

ee) used a gun during a fight? 1 2 3 4 5

ff) used another weapon (knife, brass knuckles, and so on) 1 2 3 4 5
during a fight?

gg) gotten arrested? 1 2 3 4 5

hh) driven after drinking? 1 2 3 4 5

ii) run away from home? 1 2 3 4 5

jj) vandalized public or private property (example: 1 2 3 4 5
destroyed property, graffiti, and so on)

Impulsivity

8. Please mark how often the following statements are true.

Never	Sometimes	Mostly	Always
True	True	True	True
(1)	(2)	(3)	(4)

Appendix A (Continued)

- | | | | | |
|---|---|---|---|---|
| a) I have trouble controlling my temper. | 1 | 2 | 3 | 4 |
| b) I have difficulty remaining seated at school. | 1 | 2 | 3 | 4 |
| c) I get very restless after a few minutes if I am supposed to sit still. | 1 | 2 | 3 | 4 |
| d) When I get angry, I lose control over my actions. | 1 | 2 | 3 | 4 |
| e) I have difficulty keeping attention on tasks. | 1 | 2 | 3 | 4 |
| f) I get so frustrated that I feel like a bomb ready to explode. | 1 | 2 | 3 | 4 |
| g) Little things or distractions/interruptions throw me off. | 1 | 2 | 3 | 4 |
| h) I'm nervous or on edge. | 1 | 2 | 3 | 4 |
| i) I can't seem to stop moving. | 1 | 2 | 3 | 4 |
| j) I don't pay attention to what I'm doing. | 1 | 2 | 3 | 4 |
| k) I am afraid I will lose control of my feelings. | 1 | 2 | 3 | 4 |