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**The Role of Vicarious and Anticipated Strain on the Overlap of Violent Perpetration and
Victimization: A Test of General Strain Theory**

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Abstract

Numerous studies have documented a relationship between criminal offending and violent victimization. That is, people who commit criminal behavior are also more likely to be victimized. As such, criminological theories traditionally used to explain criminal behavior have now been applied to explain victimization. The current study examines whether Agnew's general strain theory can explain the offender-victim overlap using a nationally representative sample of males. Results show that vicarious strain is positive and significant in predicting both victimization and perpetration. Anticipated strain was found only to be significant and positive in predicting victimization, but not perpetration. The study's limitations and future research are discussed.

Keywords: Victim-offender overlap, General Strain Theory, Vicarious strain, Anticipated strain

The Role of Vicarious and Anticipated Strain on the Overlap of Violent Perpetration and Victimization: A Test of General Strain Theory

Almost three decades of empirical studies have confirmed the relationship between criminal offending and violent victimization; those who commit criminal behavior are also more likely to be victimized (Silver, 2002; Maldonado-Molina et al., 2010; Schreck, Stewart, and Osgood, 2008; Smith and Ecob, 2007; Taylor et al. 2008; Pizarro, Zgoba, and Jennings, 2011; Singer, 1981; Silver et al., 2011; also see, Jennings, Piquero, and Reingle, 2012). In light of these studies, criminological theories formulated to explain criminal behavior have now been applied to explain victimization, particularly Gottfredson and Hirschi's (1990) general theory of crime (Baron, Forde, and May, 2007; Forde and Kennedy, 1997; Jennings et al. 2010; Schreck, 1999; Schreck, Wright, and Miller, 2002; Stewart et al. 2006; Payne, Triplett, and Higgins 2011; Holtfreter et al. 2010) and Aker's (2009) social learning theory (Heyman and Smith, 2002; Alexander, Moore, and Alexander, 1991; Fox, Nobles, and Akers, 2011; Kerley, Xu, and Sirisunyaluck, 2008; Gover, Kaukinen, and Fox, 2008; Gover et al. 2011; Cochran et al. 2011; Jennings et al., 2011). Other criminological theories have been less employed to explain the relationship between offending and victimization, particularly Agnew's (2006) general strain theory.

The common practice is to test whether victimization (a type of strain) is related to delinquency (i.e. drug use, robbery, property offense, running away, making obscene phone calls, etc.) without acknowledging the overlap between offenders and victims. Other studies combine victimization and perpetration with other acts of delinquency when formulating the dependent variable (Anew, 2002; Hay and Evans, 2006; Kort-Butler, 2010; Lin, Cochran, and Mieczkowski, 2011; McGrath, Marcum, and Copes, 2012). It is not entirely clear what independent effects strain has on physical victimization and perpetration only. One study (Baron,

2009) examined the role of strain on physical perpetration, but not on physical victimization. This gap in the literature provides the current study with an opportunity to explore Agnew's (2006) general strain theory applicability for explaining both offending *and* victimization. The purpose of the current study is to examine the overlap between offending and victimization using Agnew's (2006) general strain theory as our theoretical framework. Specifically, our study builds on previous studies examining the victim/offender link by focusing on vicarious and anticipated strain.

Literature Review

The Offending-Victimization Overlap

Numerous studies have documented a link between offending and victimization (see, Jennings, Piquero, and Reingle, 2012). Individuals who commit criminal behavior are at a greater risk for victimization (Lauritsen, Sampson, and Laub, 1991; Pizarro, Zgoba, and Jennings, 2011; Dobrin, 2001), suggesting there is a reciprocal effect between criminal behavior and victimization (Sampson and Lauritsen, 1990; Gottfredson, 1981; Maxfield, 1987; Chang, Chen, and Brownson, 2003). This fact has led several criminologists to argue that the correlates of crime are also the same correlates for victimization (see, Jennings, Piquero, and Reingle, 2012). Put differently, independent variables that have been found to explain criminal behavior (i.e. self-control, elements of social learning, delinquent peers, deviant lifestyles, etc.) should also explain victimization. Criminal offenders should report being a victim of a crime, and victims should also have a history of criminal behavior (Wolfgang, 1958; Jensen and Brownfield, 1986; Fagan, Piper, and Cheng, 1987; Sparks, Glen, and Dodd, 1977; Pizarro, Zgoba, and Jennings, 2011). Several studies have supported these propositions. For example, Briody et al. (2006) reported that over fifty-percent of homicide offenders had a criminal record,

while just below fifty-percent of homicide victims had one. In his classic study, Wolfgang (1958) found that about fifty percent of homicide offenders and homicide victims had an arrest record, while many of those killed provoke their violent death while engaging in a potentially crime-related act (see, Piquero et al., 2005). In a study focusing on violent victimization and offending, Daday et al. (2005) found that offenders and victims share similar violent behavior, arrest, and lifestyles characteristics, while Klevens, Duque, and Ramirez (2002) reported that about one-third of their respondents had been both an offender and a victim. The primary distinction between victims and non-victims was differences of their lifestyles (i.e. drinking alcohol, carrying a gun, staying out late at night, etc.). This link has also been observed in non-violent encounters. For example, Tewksbury and Mustaine (2000) reported that victims of vandalism (i.e. destroying someone's property) were more likely to be offenders of vandalism. Furthermore, Holtfreter et al. (2010) reported that offenders of fraud (i.e. downloading music without pay for it) were also more likely to be victims of fraud (i.e. providing personal information over the phone, such as credit card numbers).

Other studies have examined this phenomenon specifically relating to dating violence. That is, those who perpetrate intimate partner violence are also likely to indicate they have been victims of intimate partner violence. For example, Linder, Crick and Collins (2002) reported a positive relationship between intimate partner victimization and intimate partner violence perpetration. Those who perpetrated intimate partner violence towards their partners also reported being victims of intimate partner violence. A similar finding was also reached by Jennings et al. (2011). Their study showed that South Koreans who witness their parents committing intimate partner violence against each other were more likely to perpetrate, and be victims of, intimate partner violence. Studies using nationally representative samples have found

a sizable portion of individuals reporting being both offenders and victims of intimate partner violence (Reingle et al., In Press). Similarly, the link between offending and victimization has not been more evident than in studies examining youths in street gangs. Numerous studies have found that gang members are more likely to engage in criminal behavior and be victims of violent crimes than youths not in a gang (see, Taylor, Freng, Esbensen, and Peterson, 2008; Miller and Decker, 2001; Taylor, Peterson, Esbensen, and, Freng, 2007). Simply put, involvement in gang activity (i.e. criminal behavior) increases a youth's victimization vulnerability (Peterson, Taylor, and Esbensen, 2004; Ozer and Engel, 2012; Battin et al. 1998; Curry, Decker, and Egley, 2002; Esbensen and Winfree, 1998; Taylor et al., 2007). In summary, these studies have provided evidence that there are common risk factors that are associated with both criminal behaviors and victimization (Sampson and Lauritsen, 1990; Lauritsen, Janet L., Robert J. Sampson, and John H. Laub. 1991).

The Traditional Explanation for the Offender/Victim Overlap

Criminologists have traditionally relied on routine activities and deviant lifestyle (Cohen and Felson, 1979; Hindelang, Gottfredson and Garafalo, 1978) theories to explain the overlap between offending and victimization (Wittebrood and Nieuwbeerta, 1999). Although these two theories are different in several aspects, both theories place the same emphasis on a person's habits, behavioral patterns, or lifestyle that place them in contact with potential offenders and, thus, increase their chances of becoming a victim (Miethe and Meier, 1990). Individuals who frequently go to bars, are out on the streets late at night, or attend nightclubs regularly are at a greater risk for victimization (Fisher, Daigle, and Cullen, 2010). A person will increase their chances of being a victim if they themselves commit crime (i.e. living a criminal or deviant lifestyle; see, Pizarro, Zogoba, and Jennings, 2011; Zhang, Welte, and Wieczorek, 200;

Wittebrood and Nieuwbeerta, 1999). The offender may be caught during the commission of a crime, which may prompt an individual to retaliate against the offender; thus becoming a victim. In general, deviant lifestyle and routine activities theories predict that individuals who engage in criminal behavior, lack protection or guardianship, or are surrounded by motivated offenders, are more likely to be victims themselves, independent of any other factors. Routine activities theory was elaborated by Osgood et al. (1996) through the introduction of the concept “unstructured socializing.” They place the emphasis on the time spent with delinquent peers in the absence of adult care that contributes to criminal offending and victimization, since delinquent friends may not protect a person from victimization (Schreck, Fisher, and Miller, 2004). Overall, these studies offer evidence that crime and victimization are not random acts, but acts that can be predicted on situational factors that increase a person’s risk for criminal behavior and, in return, their victimization (Schwartz and Pitts, 1995; Schwartz et al. 2001; Cohen, Kluegel, and Land, 1981). Clearly, individuals who are both offenders and victims (i.e. overlying individuals) are an important population of study, and additional research is needed to understand their offending and victimization.

The Emergence of Criminological Theories to Explain the Offender/Victim Overlap

The strong correlation between offending and victimization has prompted the idea that offenders and victims share similar characteristics (Mustaine and Tewksbury, 2000) and criminological theories that have been proposed to explain criminal behavior may also help explain victimization. For example, Gottfredson and Hirschi’s (1990) general theory of crime and Akers’ (2009) social learning theory have been the most utilized theories to explain this overlap. As it was originally formulated, Gottfredson and Hirschi (1990) argued that the cause of all criminal and deviant behavior was a trait they called self-control. Children who had parents

that failed to monitor their behavior, failed to recognize criminal or deviant behavior, and failed to punish such behavior when it occurred were said to fail to instill self-control onto their child. Individuals with low self-control are said to be attracted to risky or stimulating activities, prefer physical rather than mental tasks, have a low tolerance for frustration, are more concerned about themselves rather than others, and are less likely to consider the consequences of their actions (Gottfredson and Hirschi, 1990). Low self-control has been found to be predictive of criminal behavior (see, Pratt and Cullen, 2000) and, more recently, predictive of victimization (Higgins et al. 2009; Nofziger, 2009). Individuals with low self-control are more likely to engage in activities that increases their chances of victimization (Baron, Forde, and May, 2007; Forde and Kennedy, 1997; Schreck, 1999; Piquero et al. 2005).

Recent studies have specifically tested social learning theory as an explanation for victimization (Nobles, Fox, and Akers, 2011), with the bulk of studies examining this relationship with dating violence (Jennings et al., 2011; Cochran et al., 2011; Gover, et al., 2011). Social learning theory suggests that individuals are more likely to commit criminal behavior after witnessing or modeling such behavior (Mihalic and Elliot, 1997). Learning can be accomplished through direct observation or through direct experience. Parents, role models, and other significant others are the primary sources for learning. For example, if a child witnesses his or her parents engaging in acts of violence against each other, then the child is more likely to view that behavior as acceptable. When a similar situation arises in their lives, then intimate partner violence is likely to occur; thus witnessing violence increases the chances for perpetration. Several studies have supported this link. For instance, Ehrensaft et al. 2003 found that over seventy-percent of intimate partner violence perpetrators (both male and female) reported being victims of child abuse. Specifically, those who witness family violence and/or

were subject to harsh punishment were more likely to report being perpetrators of intimate partner violence. Witnessing violence between parents was also correlated with victimization (Ehrensaft et al. 2003).

Additional studies by Heyman and Smith (2002) and Alexander, Moore, and Alexander (1991) reported similar results. Specifically, Heyman and Smith (2002) found a link between witnessing intimate partner violence and intimate partner violence perpetration and victimization for both men and women; although the relationship was stronger for men than women. This result is in concert with Alexander, Moore, and Alexander (1991). However, it should be noted that not all studies find that victims of child maltreatment are more likely to grow up to use violence against their intimate partners. For instance, Stith et al.'s (2000) 39 study meta-analysis showed a weak to moderate relationship between witnessing violence at home and intimate partner violence perpetration or victimization. Moreover, Gover, Kaukinen, and Fox (2008) found a relationship between child abuse and the perpetration of emotional abuse for females only, while Wekerle et al. (2009) found that emotional abuse during childhood predicted male perpetration and victimization of physical and emotional abuse.

Applying General Strain Theory to the Offending/Victimization Overlap

General strain theory posits that strain, stress, anger, or frustration causes criminal behavior. Expanding the foundation of classical strain theory, Agnew (2006) proposed that individuals were more likely to commit criminal behavior when they failed to achieve a positive valued goal, the loss of a valued stimulus, and the presentation of noxious stimuli. These sources of strain or stress then foster negative emotions, like anxiety, anger, and depression—all of which increases the likelihood of criminal behavior. A youth who values brand-named clothing, but cannot afford to purchase them, may turn to shoplifting in order to acquire them. An

individual who perceives of being unjustly and unfairly treated by his or her significant other may turn to violence towards their partner in order to alleviate their negative emotions. A large body of studies has been produced by criminologists documenting the relationship between criminal and delinquent behavior and various forms of strain or stress (i.e. Agnew et al. 2002; Moon and Marash, 2004; Piquero and Sealock, 2000; Moon, Hwang, and McCluskey, 2011).

The types of strain that have been found to lead to criminal behavior include experienced, anticipated, and vicarious strain (Agnew, 2002; also see Baron, 2009). Experienced strain is an individual's personal experience with negative stimuli (i.e. maltreatment by others). This type of strain is the most tested aspect of general strain theory (Agnew, 2006). Vicarious strain is the concept of witnessing or knowing the negative experiences of others, especially those people the individual has a strong bond or tie (Agnew, 2002). A loved one's own negative experiences can create strain for those concerned with that person's wellbeing. Anticipated strain refers to an individual's negative expectations in the future. An individual may have good reason to believe that strain or negative maltreatment is forthcoming (i.e. criminal victimization) or that their current strain or stress will continue in the future (Agnew, 2002). Why would these types of strain lead to victimization? As previously noted, individuals engaged in criminal behavior may increase their opportunity for victimization. Strain causes criminal behavior, which then puts the offender at a greater risk for victimization. A strained youth, for example, may seek revenge upon another youth who may have done him or her wrong. A physical confrontation may ensue in which the strained youth ends up being the victim. Other strained youths may turn to alcohol or other drugs to alleviate strain or stress. An intoxicated individual can become an attractive target for a mugging or assault, since excessive alcohol and illicit drugs inhibit one's ability to

protect oneself. A gang member whose gang assaulted a rival gang member might anticipate retaliation, generating anticipating strain and increasing his or her likelihood of victimization.

Two studies documented the role of experienced, vicarious, and anticipated strain on criminal behavior, while other studies have examined other aspects of strain on victimization (Hay and Evans, 2006; Kort-Butler, 2010; Manasse and Ganem, 2009; Lin, Cochran, Mieczkowski, 2011). Agnew (2002) reported that experienced strain (measured by the respondents own victimization) and vicarious strain (measured by the respondent's family and friend own victimization) positively contributed to delinquent behavior. The study also revealed that these two variables had the largest effects on delinquent, despite controlling for delinquent peers. Only one measure of anticipated strain (anticipation of being killed before age 25) was found to have a statistically significant impact on delinquent behavior. Although informative, this study did not determine whether these same variables contributed to the respondent's own victimization or if they contribute to the respondent's perpetrating violence towards others.

Baron (2009) tested whether these same concepts contributed to a respondent's violent perpetration. Measures included experienced violent victimization, vicarious violent victimization, and anticipated violent victimization. The results from a sample of homeless youth showed that experienced, vicarious, and anticipated victimization were all predictive of violent offending. However, when other variables suggested by general strain theory (i.e. low constraint, self-esteem, social support, etc.) were included in the analysis, only experienced violent victimization was found to be predictive of violent offending. This study is limited by the fact that it did not analyze whether these same variables explained the respondent's own victimization.

Purpose of Study and Research Hypotheses

With these two studies' limitations in mind, the current study will test whether vicarious and anticipated strain contributes to violent offending *and* perpetration. In prior research, self-control and social learning theories have been the two most utilized theories to explain the offender/victim overlap. Research has yet to test whether general strain theory can help explain the overlap between criminal behavior and victimization. That is, it is unknown what influence, if any, vicarious and anticipated strain plays on the overlap of offending and victimization. Our goal is to add to the theoretical understanding of this complex relationship. The current study will examine the following research hypotheses:

1) Greater levels of vicarious strain will increase the odds of both victimization and offending.

2) Greater levels of anticipated strain will increase the odds of both victimization and offending.

Methods

Data

Data for the current study comes from the *National Survey of Weapon-Related Experiences, Behaviors, and Concerns of High School Youth* (Sheley and Wright, 1998).¹ The purpose of the survey was to capture youths' attitudes toward gun-related violence and weapons, and it has been used by scholars to test various aspects of Agnew's (2006) general strain theory (see, Agnew, 2002; Thaxton and Agnew, 2004). The primary investigators utilized a national listing of high school in the United States to select a random sample of 132 schools (public, private, and parochial) to participate in the study. Of the 132 schools contacted, 53 schools

¹ There are several limitations in using cross-sectional data, such as directly testing the causal relationship between strain variables and the dependent variables. We talk about this concern further in the discussion section of the paper.

agreed to participate.² The primary investigators recruited males only due to financial restraints and studies finding that males are more likely to carry a weapon and be involved in violence. A self-administered survey was mailed out to students who agreed to participate in the study. This research design captured a total sample of 734 male high school sophomores and juniors.³ These respondents were asked questions regarding their own personal victimization, possession of and activities relating to firearms and other weapons, their own drug, criminal, and gang activities, as well as the respondents' demographic characteristics, family living conditions, and educational situations and aspirations (see, Sheley and Wright, 1998).

Dependent Variables

There are two dependent variables in the current study: victimization and perpetration. *Victimization* was captured by asking respondents the following two questions: "How often have the following things happened to you while you were on school property in the last 12 months?" and "How often have the following things happened to you while you were off school grounds in the last 12 months?" Regarding victimization on school property, respondents were asked if they have "ever been 1) threatened with a gun, 2) actually been shot at, 3) been threatened with a

² The primary investigators compared characteristics of the schools that participated to schools that did not participate (across variables such as region, grades offered, enrollment size and public/private), as well as comparing characteristics of their municipalities (such as population size, race/ethnicity, age and gender distributions, educational attainment, income, employment, poverty, and crime). No significant differences were found, with one exception: there was a slight difference in the upper age distribution that does not appear consequential for our study (Sheley and Wright, 1998).

³ The primary investigators report a response rate of 45%, indicating that surveys were sent to about 1630 students. Most schools were unable to conduct followup mailings or reach truants or dropouts, so there is a potential "good boy" bias to the sample (Sheley and Wright, 1998). To test this possibility, the primary investigators administered the same survey to random comparative samples at three schools in the original school sample. These onsite respondents showed more problematic responses than the original sample in the areas of school performance, shooting and beating victimizations off school grounds, using knives to threaten others, ownership of automatic or semiautomatic handguns, gun carrying outside of the home (ibid). Although this suggests a possible "good boy" bias in our sample, problems with deviance are still evident, as the two samples did *not* vary regarding victimizations on school property, victimizations involving knives, arrest history, theft, burglary, armed robbery, assault with a gun or knife, drug use or sales, gang membership, or ownership of regular rifles, automatic or semiautomatic rifles, shotguns, sawed-off shotguns, and revolvers (ibid).

knife or other sharp object, 4) actually been stabbed with a knife or other sharp object, and 5) been beaten or hit with a bat, board, other such weapon.” Regarding victimization off school grounds, respondents were asked if they have “ever been 1) threatened with a gun, but not shot at, 2) been shot at, but not wounded, 3) actually been shot, 4) been threatened with a knife or other sharp object but not stabbed, 5) actually been stabbed with a knife or other sharp object, and 6) been beaten or hit with a bat, board, or other such weapon.”⁴ Respondents were allowed to answer each question with the following response categories: 1) never, 2) just once, 3) a few times, and 4) many times. A reliability analysis revealed a Cronbach’s alpha of .89 and that removing any of the items would not increase the alpha level.

Perpetration was captured by asking respondents if, during the past 12 months, they have “Shown a gun to someone and threatened to shoot them,” “Shown a knife or sharp object to someone and threatened to stab them,” “Actually shot at someone with a gun,” “Actually stabbed someone with a knife or sharp object,” “Used a weapon to stick up a store or person,” and “Hit or tried to injure someone with a bat, board, brick, rock, or other object.” A reliability analysis revealed a Cronbach’s alpha of .88 and that removing any of the items would not increase the alpha level. Questions concerning victimization and questions concerning perpetration were added together separately. We followed the examples of Jennings et al. (2011), Osgood and Schreck (2007), and Jennings et al. (2010), and dichotomized both victimization and perpetration variables, with respondents perpetrating at least one form of violent act coded as 1=Yes and 0=No, and respondents reporting at least one act of victimization as 1=Yes and 0=No.

⁴ Some readers might question whether being threatened and actually experiencing victimization should be combined together. The dependent variable is constructed to capture all types of victimization—as those who are at the receiving end of a threat generally consider themselves as victims (Hinduja and Patchin, 2008). In some states, issuing a creditable threat towards a person is an arrestable offense and several studies have found that threats are a precursor to physical victimization (Alsaker et al. 2011; Outlaw, 2009; Follingstad et al. 1990).

Independent Variables

Several questions were asked that capture vicarious strain and anticipated strain.⁵

Measures of *vicarious strain*, strain experienced by others around the individual like family members, friends, and members of their community, was adopted from Agnew (2002).

Respondents were asked whether 1) members of their immediate families have been attacked by someone with a gun, 2) whether their friends have been attacked by someone with a gun, 3) whether they have any close friends that have been shot, 4) whether they have been to parties or other social gatherings where guests were carrying guns, 5) whether they have been to parties or other social gatherings where shots were fired, 6) whether the respondent has ever seen other youths carrying guns in their neighborhood, and 7) whether the respondent had seen someone severely wounded or killed by a gun, knife, or other weapon. These questions were added together to form the respondents' vicarious strain. A reliability analysis revealed a Cronbach's alpha of .81 and that removing any item from the scale would not increase the alpha level. Scores ranged from 6 to 23, with higher scores indicating greater levels of vicarious strain.

Anticipated strain was measured by asking respondents to indicate how likely they would be "shot with a gun," "stabbed with a knife," and "no longer be alive" by the time they were 25 years old. Respondents were allowed to answer these three questions with responses ranging from 1) very unlikely to 4) very likely. A reliability analysis revealed a Cronbach's alpha of .87 and that removing any of the items from the scale would not increase the alpha level. These

⁵ Experienced strain is not tested in the current study. Previous studies have traditionally measured experienced strain by asking respondents about their own personal victimization—one of the study's dependent variable. This omission should not be a major concern, as Agnew (2002) has pointed out that the majority of studies testing general strain theory have concentrated heavily on personal experiences (i.e. whether the respondent has been or currently being treated in a negative manner by others). This has led many criminologists to neglect the role of anticipated and vicarious strain on criminal behavior, including physical victimization and perpetration (see, Baron, 2009; Lin, Cochran, and Mieczkowski, 2011; Agnew, 2002; McGrath, Marcum, and Copes, 2012).

questions were added together to form the respondents' anticipated strain. Scores ranged from 3 to 12, with higher scores indicating greater levels of anticipated strain.

Control Variables

Several demographic and social factors have been found to influence the offending/victimization overlap. These factors include age, race/ethnicity, social economic status (SES), parental attachment, and aggressive beliefs. For example, several studies have reported that youths in their late teens are more likely to witness violence than youths in their early teens (Buka et al. 2001; Selner-O'Hagan et al. 1998; Schwab-Stone et al. 1995), which may explain why older youths are likely to engage in criminal behavior (Nofziger and Kurtz, 2005). Buka et al. (2001) reported that African-Americans and Latinos were more likely to witness and experience violence than any other racial or ethnic group (also see, Crouch et al. 2000). In regards to SES, Singer et al. (1995) stated that youths of lower SES reported higher levels of violent victimization because they were more likely to be exposed to violence. Other studies report similar results (Fitzpatrick, 1997; Moses, 1999; Overstreet et al., 1999). A youth's family structure is also important. Studies have found that youths living in intact families were less likely to report victimization and criminal offending when compared to youths in non-intact families (Esbensen and Huizinga, 1991; Miller, Esbensen, and Freng, 1999; also see Spohn and Kurtz, 2011). Studies have also found a positive relationship between aggressive beliefs and the perpetration of violence. More specific, a youth who holds positive, aggressive beliefs is more likely to engage in violence and criminal behavior (Agnew, 2002; Baron, 2009; McGrath, Marcum, and Copes, 2012). Finally, as alluded to above, gang members are more likely than non-gang members to commit criminal behavior and be victimized.

Age is measured in years. Race or Ethnicity was captured by several dummy variables. *Black* respondents were coded 1=Yes and 0=No. *Hispanic* respondents were coded 1=Yes and 0=No. *Other* respondents were coded 1 for Asian, American-Indian, and Other and 0 otherwise. White will serve as the reference category when the variables are entered into the model. *Gang members* were coded 1 if the respondent claimed gang membership and 0 otherwise. *Parents' education* was coded whether the parent has a college degree (1=yes) and 0 otherwise. *Parental attachment* was measured by asking respondents to rate their relationship to their parents from a scale of 1 (awful) to 10 (great). *Aggressive beliefs* were measured by asking respondents how much they agreed with the following 7 statements: "In my crowd, if you don't have a gun, you don't get respect," "It is okay to shoot someone to get something you want," "It is okay to shoot someone who doesn't belong in your neighborhood," "My friends would look down on me if I did not carry a gun," "It is okay to shoot someone who does something to insult you," "My friends would look down on me if I did not carry knife," and "It's okay to shoot someone who has stolen something from you." Respondents were allowed to answer these questions by indicating whether they 1) strongly agree to 10) strongly disagree. These questions were added together to form the respondents' aggressive beliefs. A reliability analysis revealed a Cronbach's alpha of .92 and removing any of the items from the scale would not increase the alpha level. Scores ranged from 7 to 70, with higher scores indicating lesser aggressive beliefs.

Delinquency was measured by a 7 item scale.⁶ Specifically, each respondent was asked whether, during the past 12 months, they had "Stolen something worth more than \$50.00," "Been arrested or picked up by police," "Used a hard drug like crack, cocaine, or heroin," "Sold hard

⁶ Although the data are cross-sectional, it was possible to control for prior delinquency. Respondents were instructed to indicate whether they had committed any of the listed acts of delinquency and to indicate their age at which those acts were committed. The ages of which most delinquent acts occurred ranged from 9 to 14 years old, while 97% of the survey's respondents were 16 years or older (for more details see, Sheley and Wright, 1998; also see Agnew, 2002).

drugs such as crack, cocaine, or heroin,” “Broke into a home, store, or car to steal something,” “Carried a gun on you,” and “Carried a knife on you.” Respondents were allowed to answer each question by indicating 1) never, 2) just once, 3) a few times, and 4) many times. These seven items were added together to create the delinquency variable. A reliability analysis showed a Cronbach alpha of .80 and removing any item from the scale would not increase the alpha level. Scores ranged from 7 to 28, with a higher score indicating greater involvement in delinquency.

Analytical Plan

The analysis is conducted in three stages. First, descriptive statistics among the variables are presented. Second, a correlation matrix is produced to determine whether significant relationships emerged between the dependent variables and the key independent variables. The correlation matrix is also helpful to see the direction of the associations and to indicate potential problems with multicollinearity in the analysis. Third, two logistic regression models were estimated, given the dichotomous nature of the dependent variable (Menard, 2010). These models will determine which independent variables are related to the dependent variables in a multivariate context. Because the sample consists of students clustered within schools, the Stata options “robust” and “cluster” were used to produce standard errors that are adjusted for the clustered nature of the data.⁷

⁷ To determine the impact of clustering, we examined the intra-class correlation (ICC) for the sample for each dependent variable. If all variation in the sample across the dependent variables were due to grouping in schools, the ICC would equal 1. Conversely, if none of the variation in the sample were due to clustering in schools, the ICC would equal 0. For *perpetration*, the intra-class correlation (calculated using the “loneway” procedure in Stata) was 0.043, indicating that less than 5% of the variation in the sample is attributable to individual’s grouping in schools. For *victimization* the ICC is 0.097, indicating that less than 10% of the variation in the sample is attributable to school grouping. Although both values are quite low, we addressed this grouping methodologically by using the “robust” and “cluster” options for Stata to produce logistic regression models with standard errors that are adjusted for the clustering of students in schools. Compared to models that did not address clustering, results for the theoretical variables remained unchanged. However the significance of some of the control variables was impacted. For the model predicting *victimization*, gang membership became non-significant. For the model predicting *perpetration*, Hispanic and Other Race became significant predictors.

Results

Descriptive Statistics

Table 1 reports the descriptive statistics for the variables used in the analysis. A total of 734 male high school sophomores and juniors participated in the study. Only 151 respondents reported being victimized, while 138 respondents reported being perpetrators. A total of 75 respondents reported being both an offender and a victim. Vicarious strain ranged from 6 to 23, with an overall average of 7.98. Levels of anticipated strain ranged from a low of 3 to a high of 12, with an overall average of 3.91. The respondents' age ranged from 15 years old to as old as 21 years old, with an average age of 16.88. Demographically, 509 respondents self-reported themselves as white, while 51 respondents were Black, 117 respondents were Hispanic, and 52 respondents as other. Only 60 respondents claimed to be gang members. A total of 375 respondents indicated their parents had a college degree. Parental relationship ranged from 1 to 10, with an overall average of 7.97. Levels of aggression beliefs ranged from a low of 7 to as high as 70, with an overall average of 66.96. Finally, levels of delinquency ranged from 7 to 28, with an overall average of 8.16 (see Table 1).

Table 1 About Here

Bivariate Correlations

The correlations between the variables used in the analysis are presented in Table 2. The table revealed several significant relationships between the independent variables and victimization/perpetration. In regards to vicarious strain, results show that vicarious strain was significantly related to victimization, showing a moderate positive relationship ($r = .471$). Respondents experiencing vicarious strain were more likely to report victimization. Vicarious strain was also significantly related to perpetration, showing a moderate positive relationship

($r=.466$). This indicates that, at the bivariate level, respondents who indicated high levels of vicarious strain were more likely to report perpetrating violence towards others. Finally, anticipated strain was significantly related to victimization ($r=.382$) and perpetration ($r=.273$), both demonstrating a moderate positive relationship. Individuals with anticipated strain are more likely to report both physical victimization and physical perpetration. Overall, the correlations between the main independent and dependent variables were all statistically significant and in the predicted direction. Finally, the correlation matrix was reviewed to spot any problems with multicollinearity. No two variables were correlated beyond .70, indicating there are no problems with multicollinearity (Fisher and Mason, 1981).

Table 2 About Here

Results of the Logistic Regression Models

The logistic regression models are found in Table 3. The first model predicts victimization. Of the variables representing strain, vicarious and anticipated strain had a significant impact on victimization. Specifically, respondents who reported experiencing vicarious strain were 1.274 times more likely to report victimization ($b=.242$, $p=.001$). Furthermore, respondents who reported experiencing anticipated strain were 1.232 times more likely to report victimization ($b=.209$, $p=.001$). Among the control variables, only delinquency significantly predicted victimization. Respondents who indicated prior delinquency were 1.257 times more likely to report victimization than respondents with no prior delinquency ($b=.228$, $p=.001$). No other variable was found to be statistically significant. The model's overall predictive strength (Nagelkerke R^2) is .36 and its χ^2 is statistically significant.

Table 3 About Here

The second model predicts perpetration. Four variables were significant in model 2: vicarious strain, Hispanic, other race, and prior delinquency. Respondents who reported experiencing vicarious strain were 1.374 times more likely to report perpetrating violence towards others ($b=.318, p=.001$). Hispanics were less likely to report perpetration of violence ($b = -.787, p = .007$), however individuals categorized as “other race” were more likely to be perpetrators ($b = .804, p = .013$). Prior delinquency was again found to be significant. Respondents who reported prior delinquency were 1.476 times more likely than respondents with no prior delinquency to report perpetrating violence towards others ($b=.389, p=.001$). The Nagelkerke R^2 is .41 and the model’s χ^2 is statistically significant.

Discussion

It is well established that individuals who commit criminal behavior are also more likely to become victims. This link has prompted several criminologists to argue that the same factors that contribute to criminal behavior may also help to explain violent victimization. As such, criminological theories that have been proposed to explain criminal behavior have now been applied to explain victimization, with the bulk of studies focusing on self-control and social learning. Given that past studies have found a link between victimization and delinquency, it is somewhat of a surprise that criminologists have not utilized the general strain theory as a theoretical framework to attempt to explain the offending/victimization link. This study tested the explanatory power of Agnew’s general strain theory to explain the empirical link between offending and victimization. Our first hypothesis, stating that greater vicarious strain would increase the odds of both victimization and offending was fully supported by our data. The second hypothesis, suggesting that anticipated strain would increase the likelihood of both victimization and offending found support only in the model predicting victimization. Moreover,

50% of the youth who reported being victims were also offenders, while 54% of the youth who reported being offenders were also victims. Such high percentages of overlap further indicate a linkage between victimization and offending that deserves further theoretical and empirical attention. As part of our discussion, we will further elaborate on this relationship and provide suggestions for further research on this issue. First, however, we will discuss each of our empirical models in turn.

First, the study found that respondents who reported high levels of vicarious strain were more likely to report being victims of a violent crime. This finding is in concert with other studies that have found vicarious strain to be positively related to delinquency (Agnew, 2002; Hay and Evans, 2006; Kort-Butler, 2010; Manasse and Ganem, 2009) and victimization (Baron, 2009). It is likely that individuals who witness, or otherwise become acknowledgeable, of real-life strain experienced by someone they admire (i.e. family member) are more likely to be involved in delinquent behavior that increases the opportunity for victimization. This finding suggests that one way to reduce victimization is to recommend youths who have experienced vicarious strain to seek help to determine the best method to reduce it. Increasing the number of counselors during traumatic events, such as school shootings or the untimely death of a classmate, is a current example of this policy that should be applied outside a school's walls. Counseling services should be available to youths who witness neighborhood violence, family violence, and other events that may create vicarious strain.

Second, our research suggests that anticipated strain is positively related to victimization, again in concert with previous research (Baron, 2009). In other words, youths who anticipate future strain are more likely to be victimized. It seems likely that youth are fairly accurate predictors of potential risks in their future, both at school and in their neighborhoods. Dangers of

victimization likely provoke salient fears. This may be the case even for youth who take a more “present-oriented” approach to life. A fruitful avenue for future longitudinal research would be a comparison of anticipated strain at “time one” as compared to actually victimization reported in later waves of data.

Among the control variables, prior delinquency was found to be positive and significant to violent victimization. The results provide further support that individuals who commit criminal behavior are at a greater likelihood for victimization. A youth who “Broke into a home, store, or car to steal something” may be confronted by the owner. A physical altercation may occur in which the offender is severely beaten, resulting in the delinquent becoming a victim. The importance of this finding is highlighted by the fact that most studies examining the offending/victimization link have not controlled for past criminal behavior (Baron, 2009; Jennings et al. 2011), which may not have provided a comprehensive examination into the factors that contribute to the offending/victimization link. Future studies should control for prior delinquency, as it is shown to contribute to victimization.

Turning our attention to violent perpetration, only vicarious strain was found to be positive and significant. Youths who reported higher levels of vicarious strain were more likely to report perpetrating violence towards others. This finding is in concert with other studies that have found a relationship between vicarious strain and criminal behavior (see Hay and Evans, 2006). However, this is the first study to clearly document a relationship between vicarious strain and physical perpetration only, as other studies have combined perpetration with other acts of delinquency (i.e. drug use) into one single variable (see above). Our findings suggest that vicarious strain experienced by a youth’s friends or family may generate feelings of anger, frustration, or depression that can induce that youth to seek revenge against the person or persons

alleged to have committed the crime. For example, a male may hear from his girlfriend that another male is disrespecting her, creating feelings of anger. This male may be prompted to physically confront the alleged perpetrator. An interesting topic for future research would be an examination of the impact of experienced strain and vicarious strain impact on anger and negative emotions, the key intervening variable of General Strain Theory. In other words, do negative things happening to people close to us produce the same negative emotions as negative things that happen to ourselves?

There is at least one reason why anticipated strain may not have reached statistical significant levels. The majority of respondents reported low levels of anticipated strain, suggesting that not too many youths experienced this situation, making this variable less important in predicting violent perpetration. Also, it is important to keep in mind the operationalization of the construct. Expecting to be stabbed, shot, or killed before reaching the age of 25 indicates a pessimistic outlook or lack of hope for one's future. This lack of hope might make one not fear the consequences of committing a violent act, but our findings do not support this assertion. As such, further theoretical development on the psychological import of anticipated strain for delinquency, perhaps from theories of delinquency other than general strain theory, is warranted. Moving theory testing regarding the link between victimization and offending in this direction would truly distinguish the contribution of General Strain Theory from that of Routine Activities and other lifestyle theories. The measures of *vicarious strain* and *anticipated strain* adopted in the current study and other research adopting general strain theory could be viewed as proxy measures for lifestyle-type variables. In other words, strain might be occurring to family members and friends and strain might be anticipated for one's future if the youth's environment and lifestyle are conducive to these negative occurrences. A focus on the

psychological repercussions of anticipated strain and strain occurring to youths' loved ones would fall outside of the theoretical scope of Routine Activities/lifestyle theories. Moreover, there is no reason to view these as competing perspectives. We view them as compatible theories that will, if used in combination, provide a more thorough understanding of the link between victimization and perpetration.

Although addressing the implications of a threatening community environment might be outside of the realm of most socio-economic policies, our research highlights the importance of addressing bullying and violence in the school setting. As youths' perceptions do predict actual victimization, we need to take seriously the concerns of students regarding bullying. Moreover, our research points to the importance of environment, in that youths' exposure to the victimization of their friends and family are more violent themselves. Consequently, efforts to reduce bullying and violence in schools might prove beneficial to the student body in general, not just the involved parties.

Three control variables significantly predicted perpetration. The relationship between prior delinquency and current perpetration of violence is not surprising. The race/ethnicity variables, however, produce an interesting pattern. Keeping in mind that this is a school sample with a potential "good-boy bias," the Black respondents do not differ from whites in levels of perpetration. In comparison, Hispanics are less likely to have perpetrated violence, whereas youth falling into the "other race" category were more than twice as likely to report a violent act. Further specification might be needed to detect racial differences in the impact of strains occurring on school grounds versus strains occurring in one's neighborhood.

Finally, these findings should be viewed with the study's limitations in mind. First, the cross-sectional nature of the data does not allow us to firmly determine a causal relationship

between vicarious and anticipated strain with victimization and perpetration. However, there are several reasons why this may not be a serious concern. Currently available longitudinal data (i.e. *Add Health*, *GREAT*, *National Survey of Children*, *National Youth Survey*, etc.) does not contain adequate measures that capture the study's key independent variables, mainly vicarious and anticipated strain. Studies using longitudinal data have only examined the role of victimization on delinquent behavior (Kort-Bulter, 2010; Manasee and Ganem, 2009; Hay and Evans, 2006), which fails to meet the current study's objectives. The lack of longitudinal data makes the current cross-sectional data set appropriate and in concert with other studies testing the effects of vicarious and anticipated strain (Lin, Cohran, and Mieczkowski, 2011; Agnew, 2002; Baron, 2009). Future data collection should attempt to resolve this problem by collecting detailed information on both criminal offending and victimization longitudinally, as well as the proper measures of strain. Additionally, the data set is a national representative sample of youth males. The problem of generalization is not a concern. Likewise, the results are consistent with those studies using longitudinal data, particularly the role of experienced strain on delinquency.

Second, the data only contains male respondents. The results can only be applied to males in the United States. Future studies should attempt to replicate the study's results using both male and females respondents. Third, the data does not contain a measure of self-control. Given that Pratt and Cullen (2000) recommended that criminological studies include a measure of self-control, and Agnew et al.'s (2002) finding that individuals with low self-control experience high levels of strain are more likely to commit criminal or delinquent behavior, future studies should include a measure of self-control. Other measures outlined by Agnew (2006) that influence the impact of strain on crime should be included, such as negative emotionality, self-esteem, and delinquent peers. Third, we must assume that the respondents were accurate in answering the

survey's questions. As with any type of survey, there is always the possibility of over- and under-reporting of criminal behavior, especially criminal offending, drug use, and victimization among youths. Finally, the study's main variables were not comprehensive. Other forms of vicarious (i.e. victimization of a beloved teacher, coach, role model, mentor, etc.), and anticipated (i.e. peer rejection, termination of an intimate relationship, forecasting future imprisonment) strain that are more likely to be experienced by youths should be examined.

The current study adds to the victimization literature by providing a first test of Agnew's general strain theory for both physical victimization and perpetration. Although scholars have provided evidence that self-control and social learning can explain the overlap between criminal offending and victimization to some degree, less attention has been paid on general strain theory. Our results suggest that vicarious strain may help explain an individual's violent victimization and perpetration. Clearly, additional research is needed and general strain theory, as well as other theories of delinquency, should be examined to enhance our understanding of the complex nature of the offending/victimization link.

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Bios

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Table 1: Descriptive Statistics for the Variables Used in the Analysis

Variable	Coded	N	Mean (%)	S.D.	Skewness	Min/Max
Victimization	1=Yes, 0=No	151 570	(20.9) (79.1)			
Perpetration	1=Yes, 0=No	138 587	(19.0) (81.0)			
Vicarious Strain	7-Item Scale	720	7.98	2.92	1.91	6/23
Anticipated Strain	3-Item Scale	729	3.91	1.66	2.25	3/12
Age	In Years	727	16.88	.817	.613	15/21
White	1=Yes, 0=No	509 220	(69.2) (30.2)			
Black	1=Yes, 0=No	51 678	(7.0) (93.0)			
Hispanic	1=Yes, 0=No	117 612	(16.0) (84.0)			
Other	1=Other, 0=No	52 677	(7.1) (92.9)			
Gang Member	1=Yes, 0=No	60 666	(8.3) (91.7)			
College Degree	1=College 0=No	375 348	(51.9) (48.1)			
Parental Relationship	1-Item Scale	730	7.97	1.74	-.902	1/10
Aggressive Belief	7-Item Scale	722	66.96	9.35	-4.698	7/70
Delinquency	7-Item Scale	721	8.16	2.57	3.74	7/28

Table 2: Correlations between Variables used in the Analysis

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1.0												
2	.463**	1.0											
3	.013	.030	1.0										
4	.071	.022	.052	1.0									
5	.310**	.049	-.075*	-.120**	1.0								
6	.014	.080*	-.006	-.076*	-.121**	1.0							
7	.347**	.258**	-.007	.093*	-.007	-.006	1.0						
8	-.150**	-.081*	.002	-.043	-.291**	-.005	-.049	1.0					
9	-.200**	-.276**	.016	.017	-.009	-.081*	-.226**	.032	1.0				
10	-.293**	-.203**	-.006	-.060	-.080*	.017	-.256**	.098**	.109**	1.0			
11	.471**	.382**	.022	.031	.051	.058	.305**	-.043	-.218**	-.206**	1.0		
12	.466**	.273**	-.005	.074*	-.010	.088*	.262**	.014	-.144**	-.206**	.418**	1.0	
13	.564***	.417***	-.024	.053	.023	.056	.467**	-.064	-.247**	-.400***	.440***	.507**	1.0

Note: $p \leq .05^*$, $p \leq .01^{**}$, $p \leq .001^{***}$

1) Vicarious Strain, 2) Anticipated Strain, 3) Age, 4) Black, 5) Hispanic, 6) Other, 7) Gang member, 8) College degree, 9) Parental Relationship, 10) Aggressive Belief, 11) Victimization, 12) Perpetration, 13) Delinquency

Table 3: Logistic Regression Predicting Victimization and Offending

	Model 1: Victimization			Model 2: Perpetration		
Variable	b	S.E.	Exp(b)	b	S.E.	Exp(b)
Vic. Strain	.242***	.054	1.274	.318***	.049	1.374
Anti. Strain	.209**	.087	1.232	-.079	.109	.924
Age	.116	.141	1.124	-.025	.135	.975
Black	-.211	.520	.810	.390	.418	1.476
Hispanic	-.271	.282	.763	-.787**	.290	.455
Other	.092	.386	1.097	.804*	.324	2.234
Gang Member	.868	.489	2.381	.313	.570	1.368
College	.117	.265	1.124	.469	.300	1.598
Parental Rel.	-.087	.057	.916	.002	.062	1.002
Aggressive Belief	-.007	.010	.993	-.008	.015	.992
Delinquency	.228***	.073	1.257	.389***	.093	1.476
Constant	-7.912**	2.555		-6.824*	2.432	
Chi-Square	216.72***			129.12***		
-2 Log	500.684			446.562		
Cox & Snell R ²	.23			.25		
Nagelkerke R ²	.36			.41		

Note: p≤.05*, p≤.01**, p≤.001***