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Exploring Pathways of Bullying Victimization: A Test of Two Competing Victimization Theories to Better Understand Risk of Bullying Experiences Among Middle School Youth

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Exploring Pathways of Bullying Victimization: A Test of Two Competing Victimization Theories to Better Understand Risk of Teasing Experiences Among Middle School Youth

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ABSTRACT

Bullying victimization is a well-documented social problem, whose consequences foster changes in public policy, and drive the implementation of intervention programs and empirical research. Traditionally, researchers have focused on identifying the individual and environmental factors that shape youth risk of being bullied. A more recent body of work has turned to using theory to better understand how individual and environmental factors shape pathways of risk for some youth. Specifically, researchers have used the lifestyle-routine activities, low self-control and target congruence paradigms to better understand peer victimization, such as bullying, among youth. While the importance of theoretical integration has been confirmed by this body of research, few studies have explicitly tested the applicability of target congruence, along with lifestyle-routine activities and low self-control to better understand the most commonly reported type of bullying—teasing.

Thus, the current study examines the effects of measures of key theoretical constructs from the lifestyle-routine activity, target congruence and low self-control paradigms on youth risk of verbal teasing – particularly, specific types of teasing victimization. Using one wave of data from the Rural Substance Abuse and Violence Project (RSVP), I test the assumption that integrated model which includes measures of target congruence, is useful in prediction of teasing risk. The findings suggest that measures of target congruence that tap into personality constructs and measures of lifestyle-routine activities that tap into school climate and social contexts are consistent predictors of youth risk of being verbally teased by their peers. Holistically, the results confirm support for a carefully specified integrated model that considers individual

characteristics like personality traits, as they often shape how youth respond or react to their environment.

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Alis Volat Propriis—

She flies with her own wings.

To those who have dedicated time and patience to fostering growth, so that I may have the courage to find my own path –

Thank you.

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CHAPTER 1. INTRODUCTION TO THE PROBLEM: PATHWAYS TO BULLYING VICTIMIZATION

While bullying among youth is not a new social problem, concern about the negative effects or consequences of bullying continues to grow amongst researchers, students, parents, school officials, educators, mental health professionals, community organizations, and advocacy groups (Devoe, Kaffenberger, and Chandler, cited in Jeong, Kwak, Moon, and San Miguel, 2013; Olweus, 2003). Researchers, as well media sources, such as national news networks, have documented the consequences of bullying among youth. The media has drawn particular attention to incidents of suicide and violence associated with reported accounts of bullying by peers and school classmates. Empirical research has reported bullying to be linked to negative effects such as eating disorders (Sweetingham and Waller, 2008), maladjustment, behavioral problems, low self-esteem, depression, anxiety (Arseneault, Kim-Cohen, Taylor, Caspi, and Moffit, 2005; Hawker and Boulton, 2000; Ivarsson, Broberg, Arvidsson, and Gillberg, 2005), and other physical and mental health concerns. Some studies also have indicated that physical and mental health consequences associated with bullying in childhood and adolescence may continue to affect individuals into adulthood (Allison, Roeger, and Reinfeld-Kirkman, cited in Nilsson, Gustafsson, and Svedin, 2012).

Recognition of bullying as a social problem with significant consequential effects (i.e., school shootings and suicide) has elicited public policy responses. State legislatures and policymakers have enacted laws and policies that aim to address bullying in educational institutions. Interest in bullying also has led to the development of numerous resources, which are available to school officials, parents, students, mental health professionals, and advocacy

groups. Many of these resources address common warning signs, action steps, and solutions to bullying. Other available resources describe different types of bullying (e.g., physical, verbal, and cyber), and discuss potential risk factors or predictors of bullying among youth. Relatedly, prioritization of bullying as a significant problem among school children has fostered the proposal and implementation of intervention programs and strategies, which seek to address the problem of bullying in schools in many countries (Olweus, 2003).

Particularly, the criminal justice system has developed an interest in addressing growing incidents and concerns of bullying among youth. For example, the National Crime Prevention Council provides information and resources concerning bullying and cyberbullying to the general public. Other federal government entities, such as the U.S. Department of Health and Human Services, promote awareness by providing information and resources through websites (i.e., stopbullying.gov). The U.S. Department of Justice sponsors research and development of resources that seek to reduce opportunities for bullying among youth in schools. For instance, the Office of Community Oriented Policing Services sponsored the publication of a problem-oriented policing guide for police practitioners concerning bullying in schools (Sampson, 2002).

Though a wealth of resources exist which focus on the identification and prevention of bullying and its consequences amongst youth, the majority of this body of information is not guided by a theoretical approach. A larger portion of empirical research has identified individual and environmental factors that arguably, predict both bullying victimization and perpetration among youth (Arseneault, Walsh, Trzesniewski, Newcombe, Caspi, and Moffitt, 2006; Baldry and Farrington, 2005; Bollmer, Milich, Harris, and Maras, 2005; Bowes, Arseneault, Maughan, Taylor, Caspi, and Moffitt, 2009; Duncan, 1999; Dussich and Maekoya, 2007; Glew, Fan, Katon, Rivara, and Kerni, 2005; Haynie, Nansel, Eitel, Crump, Saylor, Yu, and Simons-Morton,

2001;Jeong and Lee, 2013; Nilsson, Gustafsson, and Svedin, 2012; Ma, 2002; Perren and Hornung, 2005; Saarento, Karna, Hodges, and Salmivalli, 2013; Schumann, Craig, and Rosu, 2014; Smith and Shu, 2000; Spriggs, Iannotti, Nansel, and Haynie, 2007; Unnever and Cornell; 2003). Individual factors such as demographics and psychosocial adjustment have been linked to risk of bully victimization (Arseneault, Walsh, Trzesniewski, Newcombe, Caspi, and Moffitt, 2006; D'Esposito, Blake, and Riccio, 2011; Curtner-Smith, Culp, Scheib, Owen, and Tilley, 2006; De Bolle and Tackett, 2013; Due, Merlo, Harel-Fisch, Damsgaard, Holstein, and Hetland, 2009; Espelage and Holt, 2001; Fekkes, Pijpers, and Verloove-Vanhorick, 2005; Hodges, Malone, and Perry, 1997; Mellor, 1999; Mellor, 1999; Smokowski, Cotter, Robertson, and Guo, 2013). Attributes of schools, teachers, and peer norms are environmental characteristics that contribute to incidents of bullying (Saarento et al., 2013). While these studies have been instrumental in highlighting the importance of individual and environmental predictors of bullying, they have failed to examine the utility of such predictors as outlined by relevant theories of victimization.

To provide resources aimed at addressing the incidence of bullying among school youth, researchers need to further examine the relationship among theoretical mechanisms believed to carve out pathways toward victimization for some youth. Theoretical mechanisms that have been used to explain risk of victimization among youth are: *lifestyle-routine activities* and *target congruence*. The perspective, lifestyle-routine activities, is rooted in the lifestyle-exposure framework, which asserts that individual behaviors and activities, as influenced by individual and environmental characteristics can increase vulnerability to victimization (Hindelang, Gottfredson, and Garafalo, 1978). Alternatively, target congruence is built on the assumption that the characteristics and attributes of individuals, not their routines, increase their risk of

victimization (Finkelhor and Asdigian, 1996). While both approaches have been used to explore victimization among youth, few, if any studies have explored the utility of both theoretical perspectives in explaining bullying victimization among youth.

Thus, this dissertation seeks to comprehensively examine the utility of the previously identified theoretical perspectives – Target congruence and lifestyle-routine activity – in explaining bullying victimization, as measured by teasing, among adolescent youth. This dissertation offers an integrated approach to understanding how individual and environmental predictors, as well as lifestyle behaviors and activities foster unique pathways or experiences with bullying victimization for youth.

WHAT IS BULLYING?

Researchers acknowledge that defining bullying among youth is not without difficulty, as there has been little uniformity within and across different disciplines. Oftentimes, researchers will use different terms to describe similar behaviors (e.g., physical and relational aggression, kicking, hitting, shoving, pushing, rumor spreading, gossiping, and teasing; Smith and Monks, 2008, as cited in Harris, 2009).

The definition most commonly used by researchers was introduced by Norwegian bullying expert, Daniel Olweus. His definition of bullying, which refers to both victimization and perpetration, has three main criteria. First, the act of bullying must be the result of intentional, negative actions or involve harm doing. This is supported by Tattum and Tattum (1992) who propose that the act of bullying is the deliberate desire to impose harm or stress on another Second, to be classified as bullying, Olweus (1993) suggests that these negative actions must be

repeated and occur over time. The victims must experience these negative actions over a period of time. Other researchers have echoed support for this criterion. For example, Farrington (1993) has emphasized that bullying is characterized by the "repeated oppression" of another. Losel and Bliesener (1999) have suggested that bullying is "relatively frequent and long-lasting aggressiveness" (p.242).Third, an imbalance of power must exist between the bully and his or her victim. In other words, an asymmetrical relationship must exist amongst persons due to greater psychological or physical strength residing with the bully (Olweus, 1993, 1994, 1995).

While this definition has gained acceptance by researchers interested in exploring bullying, it is not without criticism. Harris (2009) suggests that the narrowness of Olweus' definition may pose measurement issues with respect to validity. For example, defining bullying by repeated acts over time may exclude youth who have suffered negative consequences from one physical act. It is possible that this adolescent victim and his or her peers would view this act as a form of bullying. Harris (2009) also points out that it is difficult to operationalize an imbalance in power in bully-victim relationship because intimidation and fear experienced by a victim is subjective. The ability to define psychological strength is questionable, and further leads to circular argument. Children may be able to recognize an imbalance in power for physical bullying, but verbal forms of bullying such as teasing, and rumor spreading may have less clear bases of power. So, power imbalances can be situational, and can change over time (Rigby, 2002).

Relatedly, the social psychological perspective recognizes that peer victimization and bullying are closely defined terms that fall under aggression. Essentially, aggression can be any type of behavior – physical or non-physical – that is intended to harm a living being who seeks to avoid such behavior (Barron and Richardson, cited in Harris, 2009). For example, Randall

(1991) asserts that 'bullying is aggressive behavior arising out of a deliberate intent to cause physical or psychological distress to others' (cited in Rigby, 2002, p. 30). Peer victimization and bullying are both intentional acts of behavior that most youth attempt to avoid, as the result of either act is a victim. The definitions of peer victimization and bullying are distinguished by two features: (1) the existence of an imbalance; and (2) repeat nature of acts over time. The definition of bullying, as outlined by Olweus asserts that for an act to be classified as bullying, an imbalance in power must exist between the bully and his or her victim and be repeated over time. Alternatively, the social psychological perspective suggests that an act of peer victimization does not require an act to be repeated over time or for an imbalance of power to exist clearly between the perpetrator and the victim (Harris, 2009).

Though some researchers have outlined bullying and peer victimization as two separate social processes (Finkelhor, Turner, and Hamby, 2012; Olweus, 1994, 1995), the two concepts are more similar, than different. Arguably, bullying is a sub-category of peer victimization, which seeks to explain incidence of aggression among youth (Harris, 2009). Further, many studies do not distinguish bullying from other sub-categories of peer victimization, such as physical (e.g., assault) and property (e.g., theft) victimization. While it is possible that bullying shares commonalities with other sub-categories of peer victimization, their opportunity structures could differ. Because many studies do not unpack bullying as a separate sub-category or form of peer victimization, this dissertation explores the assumption that bullying among school youth is ultimately, a type of peer victimization.

As previously mentioned, acts of aggression do not have to be physical – they can be verbal. Since bullying falls under the domain of aggression, it is reasonable to expect bullying to be specified by form. For example, Olweus (1993) suggests that bullying can be defined by two

forms – physical or emotional – harm inflicted on students in a school setting. More importantly, the specification of bullying forms account for the possibility that risk of physical and non-physical forms of bullying is not necessarily predicted by the same factors (Baldry and Farrington, 1999; Jeong and Lee, 2013; Llewellyn, 2000; Olweus, 1993; Whitney and Smith, 1993). For example, research suggests that males tend to be more at risk of experiencing more overt or physical forms of bullying victimization, while girls tend to experience indirect, non-physical or verbal forms of bullying victimization (Henington, Hughes, Cavell, and Thompson, 1998; Putallaz, Grimes, Foster, Kupersmidt, Coie, and Dearing, 2007; Siann, Callaghan, Glissov, Lockhart, and Rawson, 1994).

Other researchers have contributed to further specification of bullying types. For example, Jeong and colleagues (2013) examined school bullying victimization among a sample of youth between the ages of 12 and 18 years. More specifically, using data from the 2005 School Crime Supplement (SCS) of the National Crime Victimization Survey (NCVS), Jeong et al. (2013) examined three types of bullying: (1) physical, (2) emotional, and (3) physical and emotional. Physical bullying was characterized by a student experiencing threats, being shoved, tripped, pushed, or forced to do something against his or her will, and having his or her property destroyed. Emotional bullying was characterized by a student being made fun of or called names, having rumors spread about him or her, being excluded, or insulted due to his or her race, religion, ethnicity, disability, gender, or sexual orientation (Jeong et al., 2013).

Though empirical research has distinguished between physical and emotional or verbal bullying, not many studies have not provided further specification among types of verbal bullying (e.g., made fun of or called names due to race, religion, ethnicity, disability, gender, or sexual orientation). When exploring pathways to different types of bullying victimization, it is

possible that variation exists across theoretical predictors and mechanisms which shape these pathways. Because this possibility exists, this dissertation explores the assumption that all forms of verbal bullying victimization are not the same phenomenon. Specifically, only youth experiences of teasing are examined in this dissertation, as arguably, criminologists and criminal justice researchers tend to consider physical acts of violence to be assault.

BULLYING AMONG ADOLESCENT YOUTH

The incidence of bullying among adolescent youth is well documented in the United States. During the 2009 school year, a national-level study found that approximately 28 percent of public middle and high school students between the ages of 12 to 18 reported being bullied at school. This study which used the SCS of the NCVS found that 19 percent of these students reported that they had been teased (made fun of or called names), or insulted, and 16 percent reported that they were the subject of rumors or gossip. About 9 percent of students reported being tripped, shoved, or spat on, while 6 percent had indicated that they were threatened with harm by another student. Of the students who reported being bullied, about 5 percent reported being purposefully excluded from activities at school (Devoe, Bauer, and Hill, 2011).

Additional national-level studies highlight the extent of bullying among youth in schools. In a study of U.S. public schools, during the 2009 – 2010 school year, approximately 23 percent of public school officials reported that bullying occurred weekly or daily (Robers, Kemp, Truman, and Snyder, 2013). Using data from the Health Behavior in School-Ages Children (HBSC) 2005 Survey, Wang, Iannotti, and Nansel (2009) explored recently experienced incidents of physical, verbal, social, and cyberbullying (electronically) among a sample of students from grades 6 through 10. The researchers found that prevalence of incidents of bullying victimization varied by form. For example, 53.6 percent of students reported

experiencing verbal bullying victimization in the past two months. Similarly, 51.4 percent of students reported experiencing social bullying victimization, while 20.8 percent and 13.6 percent experienced physical and electronic forms of bullying victimization respectively.

Collectively, studies not only speak to the prevalence of bullying in schools across the United States, they also draw attention to the importance of specificity when examining forms of bullying. Specifically, these studies indicate that youth who experience bullying in school report that these incidents are usually verbal in nature, such as being teased or picked on. Therefore, the operationalization and measurement of bullying should focus on the occurrence of different forms of verbal victimization, where students recall being teased or picked on by their peers.

PREDICTORS OF BULLYING VICTIMIZATION

Understanding the incidence and risk of bullying among youth has generally been linked to individual and environmental predictors. These predictors as explored in the discipline of social psychology are believed to create pathways which put youth at increased risk for bully victimization.

Individual Predictors

Individual predictors that have been linked to bullying and peer victimization include: Gender, social behavior (aggression and submission), emotional reactivity and regulation, psychosocial vulnerability, physical characteristics, disabilities, age, and race (Graham, Bellmore, and Juvonen, 2003; Harris, 2009; Whitney and Smith, 1993). Research suggests that boys and girls learn how to navigate the social waters through their peer groups. Specifically, adolescents learn what is considered “cool” and what behaviors and communication styles are associated with popularity and high status (Harris, 2009). For example, girls tend to value

physical appearance and social skills, whereas toughness and athletic ability are valued among boys (Ruble, Martin and Berenbaum, 2006 as cited in Harris, 2009).

Such differences between boys and girls are reflected in researchers' findings which suggest gendered effects in risk of bullying victimization among youth. For instance, many researchers (Dawkins, 1996; Espelage and Holt, 2001; Haynie, Nansel, Eitel, Crumo, Saylor, Yu, and Simons-Morton, 2001; Ma, 2002; Olweus, 1993; Ozer, Totan, and Atik, 2011; Reid and Sullivan, 2009; Siann, Callaghan, Glissov, Lockhart, and Rawson, 1994; Smokowski, Cotter, Robertson, and Guo, 2013) have noted empirical evidence, which suggests boys are more likely to report being victims of bullying than girls. Other studies have found gender differences in risk for type of bullying victimization. Specifically, girls are more at risk for social, indirect, and relational types of bullying victimization, such as gossiping, teasing, rumor spreading, isolation, and rejection. Boys, on the other hand, are more like to be victims of physical, direct, and overt types of bullying victimization, such as hitting, punching, pushing, tripping, and slapping (Baldry and Farrington, 1999; Jeong and Lee, 2013; Olweus, 1993; Putallaz et al., 2007; Siann et al., 1994; Whitney and Smith, 1993).

Maladaptive social behaviors, such as aggression and withdrawal, are linked to peer victimization (Hodges, Boivin, Vitaro, and Bukowski, 1999 as cited in Harris, 2009). Studies that have explored the causal order of the relationship between aggression and peer victimization have determined that aggression predicts risk of peer victimization and rejection (Bukowski and Sippola, 2001; Kochenderfer-Ladd, 2003, as cited in Harris, 2009; Ladd and Troop-Gordon, 2003; Powell and Jenson, 2010). Similarly, emotional reactivity and regulation are associated with peer victimization. Youth who have a difficult time regulating negative emotions, such as anger, in the classroom are more likely to be ostracized by their peers, which often leads to peer

victimization (Bernsweig, Karbon, Poulin, and Hanish, 1999; Hanish, Eisenberg, Fabes, Spinrad, Ryan, and Schmidt, 2004; Maszk, Eisenberg, and Gutherie, 1999; Schwartz, Proctor and Chien, 2001 as cited in Harris, 2009).

Further, some researchers suggest that the relationship between externalization of behavior and experiencing peer victimization is explained by the presence of low self-control, or Attention Deficit/Hyperactivity Disorder (ADHD) in youth (Arseneault et al., 2006; Haynie et al., 2001; Timmermanis and Wiener, 2011; Wiener and Mak, 2009). Ultimately, youth with low self-control or ADHD tend to engage in risky behaviors and display aggression, which influence their risk of being bullied by their peers (Jensen-Campbell, Knack, Waldrip, and Ramirez, 2009). Alternatively, other studies have found support for the relationship between ADHD and bullying victimization among youth, but not low self-control and risk of being bullied by peers (Unnever and Cornell, 2003). Thus, additional research is needed to clarify the relationship between low self-control and risk of bullying victimization among youth.

Psychological problems, such as depression and anxiety are associated with peer victimization (Arseneault et al., 2006; Bond Carlin, Thomas, Rubin, and Patton, 2001; D'Esposito, Blake, and Riccio, 2011; Egan and Perry, 1998; Espelage, Bosworth, and Simon, 2001; Fekkes, Pijpers, Fredriks-Vogels, and Verloove-Vanhorick, 2006; Lester, Dooley, Cross, and Shaw, 2012; Snyder, Brooker, Patrick, Snyder, Schrepferman, and Stoolmiller, 2003; Sweeting, Young, West, and Der, 2006 as cited in Harris, 2009). Specifically, children who exhibit symptoms of depression may have difficulty in establishing and maintaining social ties with peers. Other researchers have suggested that youth who experience depression and anxiety might exhibit behaviors that are unfavorable to their peers, which puts them at risk for peer victimization (Coyne, 1976; Crawford and Manassis, 2011; Harris, 2009; Perry, Hodges, and

Egan, 2001; Rudolph, Ladd, and Dinella, 2007; Saarento et al., 2013). Specifically, youth who internalize their problems, such as anxiety and depression may be perceived to be socially incompetent by their peers, thereby resulting in lower friendship quality (Bollmer et al., 2005; Goldbaum et al., 2003; Rubin et al., 2004) or rejection (Hodges and Perry, 1999). This is especially problematic as research suggests having quality friendships, and close friends serve as a protective factor for youth at risk for bullying victimization. Such youth become vulnerable targets because bullies believe that they will not defend themselves (Olweus, 1993). Therefore, youth who exhibit nonnormative behaviors are generally at risk for rejection and victimization from their peers (Kreiger, 2007; Maccoby, 1998, as cited in Harris, 2009).

Depression and anxiety in youth is associated with physical characteristics, such as body type (Eisenberg, Neumark,-Sztainer, and Story, 2003; Sweeting and West, 2001). Researchers have found that obese adolescents are often targets of victimization and teasing by their peers (Pearce, Boergers, and Prinstein, 2002). These youth generally report more feelings of loneliness, negative thoughts about their physical appearance, and prefer to spend time in isolative activities (Hayden-Wade, Stein, Ghaderi, Saelens, Zabinski, and Wilfley, 2005). This is consistent with literature, which has linked peer victimization among youth to self-perceptions (e.g., physical appearance) and attributions (Juvonen, 1998, 2001, as cited in Harris, 2009; Egan and Perry, 1998; Powell and Jenson, 2010). So, youth who exhibit higher self-efficacy decreases their likelihood of being bullied (Doll, Holstein, and Soc, 2008; Ozer et al., 2011). Youth with physical abnormalities (Dawkins, 1996), or who are perceived to be physically weaker by their peers also are more at risk for bullying victimization (Olweus, 1973, 1978).

Disabilities, such as sight, hearing, speech, and learning also increase youth risk of experiencing bullying (Nabuzoka, 2003; Sweeting and West, 2001). Students of special schools

have reported experiencing more victimization than students attending mainstream schools (Norwich and Kelley, 2004). However, research has found that youth with disabilities attending mainstream schools also report experiencing bullying from their peers (Llewellyn, 2000). Many youth with special educational needs have reported social exclusion and rejection than their peers without special educational needs (de Monchy, Pijl, and Zandberg, 2006).

Age is another risk factor identified by past researchers as a predictor of bullying. As youth age, they are less likely to report experiencing bullying victimization (Smokowski et al., 2013). So, with each grade increase, reports of bullying victimization among youth decline significantly (Olweus, 1993). This is supported by much research which has found that bullying is more common in elementary and middle school (Espelage and Holt, 2001; Nansel et al., 2001). Some researchers have explained that younger youth are more likely to be bullied, especially in school, because they have less power than older youth (Schuman et al., 2014).

Some researchers have proposed that popularity among peers is associated with SES (Michell, 1999). This is supported by empirical findings (Curtner-Smith et al., 2006; Due et al., 2009; Schumann et al., 2014; Unnever and Cornell, 2003), which suggest that impoverished youth or students perceived by their peers to be of lower SES, are more likely to report experiencing bullying victimization or violence in schools. Risk of being bullied is especially elevated for youth who attend schools with more social disadvantage (Wolke, Woods, Stanford, and Schultz, 2001). Further, some studies have found that bullying behavior is especially concentrated among youth of higher SES, in that schools situated in more well-to-do neighborhoods may reinforce inequality among students. Differences in SES among students thus result in the ostracization of youth with families of lower SES (Chaux, Molano, and Podlesky, 2009). Alternatively, results of other studies (Whitney and Smith, 1993; Woods,

Stanford, and Schultz, 2001) have questioned the association between SES and risk of bullying victimization. Findings of these studies indicated little to no relationship between SES and bullying. The inconsistencies in findings suggest need for further empirical scrutiny as to the relationship between SES and bullying victimization among youth.

There is much discrepancy in past research concerning race or ethnicity as a risk factor for bullying victimization. Some researchers have found that African American youth are more likely to report experiencing bullying than White and Latino/Hispanic youth (Mellor, 1999; Nansel et al., 2001), while others found White youth more likely to report bullying (Smokowski, et al., 2013; Spriggs et al., 2007). Other studies have found that bullying victimization does not significantly vary by race or ethnicity (Moran, Smith, Thompson, and Whitney, 1993; Siann et al., 1994; Wolke et al. 2001). Differences in previous findings warrant the need for additional research in order to understand the nature of the relationship between race/ethnicity and bullying victimization among youth.

Environmental predictors

Similar to individual, environmental predictors directly conditions, as well as moderates pathways of risk for bullying victimization among youth. Environmental risk factors linked to bullying and peer victimization are: parental attachment, home life, peer relations, school and classroom climate, and school attachment. Research suggests insecure attachments between parent and child can predict peer victimization (Bowlby, 1973). Relatedly, parenting styles, such as maternal overprotectiveness, parental coercion, and parental rejection are associated with child or youth vulnerability to peer victimization (Ladd and Kochenderfer-Ladd, 1998; Olweus, 1993). For example, boys who experience maternal overprotectiveness or paternal negativity are at an increased risk of peer rejection and victimization because they lack the ability to develop a

sense of autonomy. Girls who experience maternal coercion or emotional control are at an increased risk of victimization because they are not taught healthy social skills (Duncan, 2004; Finnegan, Hodges, and Perry, 1998; Rigby, 1993). Dependent family relationships, physical abuse, violence, or harsh or strict home life also put youth at risk for peer victimization (Bauer, Herrenkohl, Lozano, Rivara, Hill, and Hawkins, 2006; Bowers, et al., 1994; Duncan, 1999; Finnegan et al., 1998; Mohr, 2006; Nilsson, Gustafsson, and Svedin, 2012; Schwartz, Dodge, Pettit, and Bates, 1997). Lack of involvement from fathers is especially correlated with male youth risk of bullying victimization (Flouri and Buchanan, 2002; Fosse and Holen, 2002). Thus, healthy family relationships and attachments act as a protective factor from peer victimization (Baldry and Farrington, 2005; Perren and Hornung, 2005).

Secure attachment to parental figures, such as mothers are also associated with secure peer attachments (Coleman, 2003). Peer relations, social support, and status within peer groups, and social relationships are important to youth, as they can encourage or discourage peer victimization (Coleman and Byrd, 2003; D'Esposito et al., 2011; Demaray and Malecki, 2003; Jeong and Lee, 2013; Perren and Hornung, 2005). For example, bully victimization is considered a mechanism by which youth express their dislike towards other peers (Boivin, Hymel, and Hodges, 2001). This can further increase vulnerability for youth because peers will not likely come to their aid or they may not have any friends (Hodges and Perry, 1999; Rigby, 2005). So, strong peer relationships, a large network of social support, and popularity within peer networks protect youth from being bullied (Davidson and Demaray, 2007; De Bruyn, Cillessen, and Wissink, 2010; Powell and Jenson, 2010; Rubin et al., 2004).

School climate and classroom management are linked to bullying in schools (Cook, Williams, Guerra, Kim, and Sadek, 2010). Some researchers have found that classrooms with

competent teaching, monitoring of behavior, and care for students tend to have lower incidents of bullying. Similarly, Olewus (1993) suggests that schools with lack of teacher intervention and monitoring of behavior, inconsistent handling of bullying incidents, and weak consequences contribute to a school climate that is perceived to be “bully friendly” (as cited in Harris, 2009; Smith and Shu, 2000). In other words, school and classroom disciplinary climates can reduce youth risk of bullying victimization (Ma, 2002; Saarento et al., 2013).Youth attachment or connectedness to school (Glew et al., 2005; O’Brennan and Furlong, 2010), and positive teacher-student relationships (Khoury-Kassabri, Benbenishty, Astor, and Zeira, 2004) are particularly associated with a reduction in risk of bullying victimization.

In sum, a wealth of research points to the importance of individual and environmental characteristics in predicting risk of bullying victimization among youth. Inconsistencies in findings also highlight the need for additional research concerning the relationship between the specific individual and environmental characteristics and bullying victimization among youth. Thus, this dissertation focuses on identifying relevant predictors of bullying victimization among youth.

Though individual and environmental factors are essential to understanding risk of bully victimization, arguably, they do not fully explain how such characteristics foster a pathway to being a victim of bullying. Thus, researchers have turned to theoretical perspectives such as target congruence, lifestyle-routine activity and low self-control to predict risk of bullying victimization among youth. While these studies have confirmed the importance of theoretical integration in understanding pathways to bullying victimization, few have explicitly tested the applicability of target congruence, in conjunction with lifestyle-routine activity and low self-control, in predicting risk of bullying victimization, such as teasing. More specifically, few

studies have explicitly tested target congruence to explain different types of teasing. To address the problem of bullying victimization, researchers need a clearer understanding of the theoretical mechanisms that aid in the formation of such pathways.

CURRENT FOCUS

This dissertation draws upon the lifestyle-routine activities and peer victimization literature, which has been used to explain risk of victimization among youth. More specifically, this dissertation builds from the previous research which has explored risk of victimization among youth using two competing theoretical frameworks – Hindelang et al.'s (1978) lifestyle exposure theoretical framework and Finkelhor and Asdigian's (1996) target congruence perspective – to explore bullying .

Lifestyle exposure theory suggests that an individual's risk of criminal victimization is the result of their exposure to bullying. The individual's risk of exposure to bullying is a product of their lifestyle-routine behaviors (Hindelang et al., 1978). The importance of lifestyle-routine behaviors is emphasized in Cohen and Felson's (1979) routine activity theory (RAT), which is later repackaged by Cohen, Kluegel and Land. Essentially, the lifestyle-exposure and routine-activity perspectives are joined to create lifestyle-routine activity framework, which focuses not only on the role of exposure in shaping victimization risk, but also the effects of guardianship, and proximity to potential motivated offenders in explaining victimization risk.

Alternatively, target congruence theory suggests that individual characteristics of youth are congruent with the needs, motive, or actions of an offender (Finkelhor and Asdigian, 1996). For example, gender, SES, and age may be characteristics that are perceived to be gratifying to an offender. Emotional impairments, such as high anxiety or depression may increase youth

vulnerability to victimization, while behavioral characteristics such as low self-control, may provoke or antagonize potential perpetrators. Thus, this dissertation discusses the relevance of low self-control, as highlighted in Schreck's (1999) research, in explaining youth risk of victimization.

Additionally, the analysis incorporates relevant individual and environmental predictors of bullying to thoroughly explore the viability of unifying these theoretical models. Ultimately, this dissertation seeks to determine which theoretical framework has the best explanatory value in understanding pathways to bullying among youth. Further, the analysis in this dissertation extends previous research by exploring whether these models contribute to understanding risk of specific forms of verbal bullying victimization among youth. Specifically, the analysis examines the ability of one, if either, or both theoretical frameworks explain risk of several forms of bullying victimization among youth. Essentially, this dissertation explores the empirical assumption that a sound theoretical model should be able to explain various forms of bullying among youth.

OVERVIEW OF CHAPTERS TO FOLLOW

Chapter 2 begins by discussing the evolution of the lifestyle-routine activity (LRAT) framework. First, Hindelang and colleagues' (1978) lifestyle-exposure perspective is outlined; followed by a discussion of Cohen and Felson's (1979) RAT. Second, Cohen and colleagues' (1981) LRAT framework is provided; followed by a discussion of its extensions— Finkelhor and Asdigian's (1996) target congruence and Schreck's (1999) low self-control concept. This chapter also provides a discussion of empirical assessments which explore the utility of the lifestyle-routine activity framework, target congruence, and low self-control. Predictors most commonly associated with empirical assessments of the LRAT and target congruence theoretical

models are highlighted. The chapter concludes with the hypotheses examined in the current study, as based on previous research. Chapter 3 outlines the research questions explored provides a discussion of the methods used to test the hypotheses. Specifically, a detailed description of the measures and analytic strategy used for this dissertation are provided. Chapter 4 presents the results of the logistic regression and negative binomial regression analyses used to explore the research questions discussed in Chapter 3. The last chapter summarizes key findings and provides a detailed discussion of these findings. Limitations of the study and theoretical and policy implications are considered as well.

CHAPTER 2. THEORETICAL EXPLANATIONS FOR YOUTH VICTIMIZATION

Theories of criminal victimization vary in their explanation of factors, mechanisms, and contexts that shape an individual's opportunities for victimization. Many researchers have considered the role of personal characteristics, while others have focused on individual behavioral patterns and routines, characteristics of situations, and places that contribute to victimization. Researchers interested in explaining risk of victimization, specifically among youth, also have considered the relevance of individual characteristics, behaviors, and routines in shaping desirability or proximity to predators. Though many of these theories are often focused on individual and social characteristics of children or adolescents, their explanations for how and why victimization occurs are oftentimes viewed as competing, not complementary. Thus, this dissertation pushes beyond traditional criminological literature by introducing a theoretical model that integrates two popular explanations of peer victimization— lifestyle-routine activities and target congruence – which arguably, can be used to identify and explain the relationships among antecedents or risk factors of different types of bullying.

The relevance of using both the lifestyle-routine activities and target congruence perspectives is unfolded over the course of the chapter. First, this chapter outlines the emergence of the lifestyle-routine activities (LRAT) framework, and its components; followed by a discussion of empirical evidence as it relates to victimization among youth, especially bullying victimization. Second, a discussion of the central components of the target congruence model and relationship between low self-control and victimization among youth are provided. Empirical evidence, which has examined the applicability of target congruence in predicting victimization among youth is woven into this theoretical discussion. Lastly, the chapter concludes with the purpose of this dissertation; prior limitations and gaps in existing research are discussed using the first two sections as a backdrop

LIFESTYLES- ROUTINE ACTIVITIES FRAMEWORK

The roots of the lifestyle-routine activities framework can be traced to the emergence of two seminal theoretical explanations of adult criminal victimization in the late 1970s: Hindelang, Gottfredson, and Garafalo's (1978) lifestyle-exposure theory and Cohen and Felson's (1979) routine activity theory. While both theories offer different explanations for the occurrence of crime and victimization risk, they both assume that criminal victimization incidents are not random; rather, they are the result of perceived opportunities by motivated offenders. The shared likeness in explaining opportunities for victimization led to the integration of both theoretical approaches; resulting in the lifestyles-routine activities framework.

Since its inception, the lifestyle-routine activities framework, and its extensions have garnered much attention from criminologists and victimologists alike (Burrow and Apel, 2008; Campbell Augustine, Wilcox, Ousey, and Clayton, 2002; Cohen, Kluegal, Land, 1981; Finkelhor and Asdigian, 1996; Fisher, Sloan, Cullen, and Lu, 1998; Garofalo, Siegel, and Laub, 1987; Jensen and Brownfield, 1986; Lauritsen, Laub, and Sampson, 1992; Miethe, Stafford, and Long, 1987; Miethe and Meier, 1990,1993, 1994; Mustaine and Tewksbury, 1999, 2002; Peguero, 2008, 2009; Popp, 2012a, 2012b; Popp and Peguero, 2011; Sampson and Lauritsen, 1990; Schreck, Wright, and Miller, 2002; Schreck, Miller, and Gibson, 2003; Wilcox, May, and Roberts, 2006; Wilcox, Tillyer, and Fisher, 2008). Application of the lifestyle-routine activities framework has been instrumental in building a working knowledge of characteristics and factors associated with victimization risk (Burrow and Apel, 2008; Campbell Augustine et al., 2002; Cohen et al., 1981; Fisher et al., 1998; Garofalo et al., 1987; Jensen and Brownfield, 1986; Lauritsen et al., 1992; Mustaine and Tewksbury, 1999, 2002; Peguero, 2008, 2009; Popp, 2012a, 2012b; Schreck et al., 2002; Schreck et al., 2003). This section first, outlines the development of

the lifestyle-routine activities framework, which is relevant to understanding pathways that put youth at risk for being bullied or teased by peers. This is then followed by a discussion of past research that has explored the relationship between lifestyles, routine, and extracurricular activities and bullying victimization.

Lifestyle-Exposure Theory

Hindelang and colleagues (1978) were among the first researchers to present a systematic theory of criminal victimization – lifestyles exposure theory. In their book, *Victims of Personal Crime: An Empirical Foundation for a Theory of Personal Victimization*, the researchers sought to explain individual risk of personal victimization using data from the 1972-1974 National Crime Survey (NCS). Exploration of these data led to the development of a theoretical model (see Figure 1) depicting that risk of victimization varied by social group membership. Specifically, individuals with particular demographic characteristics, such as sex, race, and age were more likely to be report having been victimized. For example, younger individuals were more likely to report being a victim of a personal crime (e.g., assault or robbery) than older individuals (Hindelang et al., 1978; Miethe and Meier, 1994). In other words, certain demographic characteristics increase the likelihood of personal victimization.

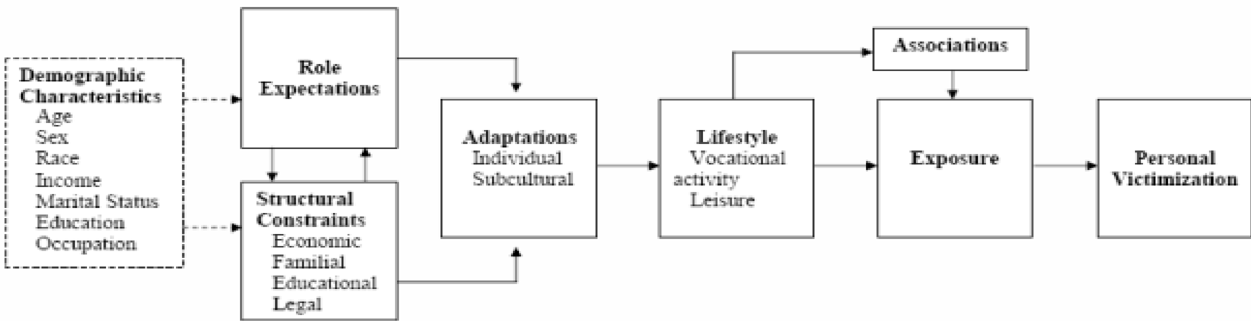


Figure 2 – 1: Lifestyle-Exposure Model. Source: adapted from Hindelang, Gottfredson and Garofalo (1978).

In light of these observations, Hindelang and colleagues propose in their model (see Figure 2.1) that such differences in risk of victimization across social groups are driven by an individual's lifestyle. It is the variation in individuals' lifestyles that differentially expose individuals to places, times, and other individuals which increase their risk of criminal victimization (Miethe and Meier, 1994). Lifestyles, as described by Hindelang et al., are an individual's routine daily activities, which fall into two types: vocational and leisure activities. Examples of vocational activities that often make-up an individual's lifestyle are work, school, and household responsibilities, while dining out and shopping are examples of leisure activities (Meithe and Meier, 1994). Essentially, the crux of the theory presented by Hindelang and colleagues is that a direct relationship exists between lifestyles and exposure to risk of victimization. Therefore, individuals' routine activities increase their exposure to high-risk situations, which can result in victimization.

Hindelang et al. further argue that demographic characteristics (e.g., age, sex, race, marital status, education, occupation, or income) shape an individual's lifestyle behaviors. For example, younger individuals who are influenced by their peers tend to spend more time outside

of the home in public places (e.g., bars, clubs, and sports events). Because they spend more time in public places than elderly individuals, they are more likely to be exposed to offenders, which put them at risk for personal victimization. Hindelang and colleagues suggest that this explanation is applicable for males and non-married or single individuals as well. After reviewing the NCS data, the researchers found that in addition to younger persons, males and non-married individuals were more likely to report experiencing personal victimization. Hindelang et al. assert that similar to younger persons, males and non-married individuals engage in routine activities that tend to revolve outside of the home, which makes them vulnerable to criminal victimization. Alternatively, women and married individuals, especially those with children tend to engage in routine activities that revolve around the home, which lessens their exposure to motivated offenders and hence, their risk of victimization.

Though Hindelang and colleagues propose that demographic characteristics shape an individual's lifestyle activities, the relationship between demographic characteristics and lifestyles is indirect in nature. Achieved (e.g., education, occupation, or income) or ascribed (e.g., age, race, or sex) demographic characteristics influence perceived role expectations and structural constraints that drive or constrain an individual's behavior. Role expectations are "cultural norms that are associated with achieved and ascribed statuses of individuals and that define preferred and anticipated behaviors" (Hindelang et al., 1978, p. 242). In other words, shared cultural norms or beliefs of society that are a function of specific demographic characteristics shape routine behaviors and activities. For example, if the norm is for older individuals to retire from the work force, and spend more time with family, this change in routine activities can limit exposure to potential offenders.

Like role expectations, Hindelang et al. assert that structural constraints condition human behavior and exposure to motivated offenders. Structural constraints, as outlined by the theory, are economic, familial, legal and educational conditions that enable or limit routine activities. For example, individuals with few economic advantages are limited in transportation and housing options, as well as leisure activities. These individuals tend to live in apartments or homes situated in low socioeconomic, crime-prone communities. Further, due to limited financial resources, these individuals are unable to take advantage of better opportunities; thereby resulting in exposure to risky individuals, situations, and places which increase their vulnerability to victimization (Meithe and Meier, 1994).

Hindelang and colleagues further argue that structural constraints are a function of one's demographic characteristics (e.g., age), are often interdependent, and that individuals simultaneously experience these at different points in their lives (Hindelang et al., 1978, p. 242). For instance, age structures the constraints experienced by individuals across the life course. During early childhood, youth's behavior is structured and controlled by family or guardians. The routine behaviors (e.g., eat and sleep) and activities (e.g., playtime) of infants and toddlers are structured by parental control. As youth transition out of the home environment into a school setting, their routine or daily activities become structured by educators or staff at their school. Though parents still have control over youth behavior, it becomes weakened by the child's exposure to others outside of their home environment. Essentially, their daily activities and lifestyle becomes structured by those they come in contact with inside and outside of school (e.g., peers). As youth become adolescents, the institutional control that family members and educators once had over daily activities is weakened by the formation of youth's autonomy. Adolescents' lifestyles change as they transition into adulthood. As young adults, the routine

activities of these individuals tend to revolve around occupational, and/or educational constraints (Hindelang et al., 1978, p. 247).

While Hindelang and colleagues argue that role expectations and structural constraints are two separate, yet important determinants of lifestyles, they also note the existence of a shared relationship between these two concepts. As illustrated in Figure 1, Hindelang and colleagues believe that a reciprocal relationship exists between role expectations and structural constraints. The researchers draw attention to this point with their example concerning changes in role expectations for men and women. Specifically, changes in role expectations for men and women have led to changes in structural constraints, such as family and economics. Another example is how parental role expectations during infancy and early childhood condition the familial constraints to an infant or toddler's lifestyle.

It is also important to note that Hindelang et al. suggest that individuals adapt to role expectations and structural constraints, and the adaptation process occurs at both the individual and group levels (p. 244). Individuals develop and acquire skills, beliefs, and attitudes that allow them to navigate or adapt to conditions induced by role expectations and social structural constraints. For example, individuals develop attitudes and beliefs about crime, and fear of crime, which influence or limit their routine activities. For individuals that have the same demographic characteristics, their behavioral reactions or adaptations to role expectations and structural constraints are shared. In other words, because these individuals experience similar role expectations and structural constraints, they ascribe to normative processes or adaptations which are sometimes associated with subcultural groups in society. Essentially, the adaptation process results in the formation of routine patterns of behavior which Hindelang and colleagues refer to as "lifestyles."

As previously mentioned, Hindelang and colleagues posit that an individual's lifestyle directly influences his or her exposure to risk of personal victimization. However, as outlined in Figure 1, Hindelang et al. suggest that an individual's lifestyle can be indirectly linked to exposure through associations. Associations, as defined by Hindelang and colleagues are "sustained personal relationships among individuals that evolve as result of similar lifestyles and hence similar interests shared by these individuals" (p. 245). Basically, individuals are more likely to hang out or spend time with others most like themselves. This phenomenon is often illustrated through the expression, "birds of a feather flock together." Since offenders tend to share similar characteristics, individuals who associate with them are at risk for exposure to victimization (Hindelang et al., 1978). Therefore, associations serve as the indirect link between lifestyle and exposure.

To summarize, Hindelang and colleague's lifestyle-exposure theory suggests that an individual's vocational and leisure activities (i.e., lifestyles) increases his or her exposure to motivated perpetrators (i.e., bullies). Essentially, this theoretical perspective emphasizes a direct relationship between routine activities and behaviors and risk of criminal victimization. Furthermore, this perspective emphasizes the relevance of demographic characteristics, as they indirectly shape an individual's risk of victimization through lifestyles which ultimately exposes him or her to motivated offenders. So, lifestyles mediate or drive the relationship between demographic factors and risk or opportunity for victimization.

Routine Activity Theory

Shortly following the release of lifestyles-exposure theory, Cohen and Felson (1979) published, *Social Change and Crime Rate Trends: A Routine Activity Approach*. In this seminal

piece, the researchers outlined their routine activity theory, which emphasizes a macro-level explanation for incidents of predatory crime. Borrowing concepts from Hawley's human ecological theory, Cohen and Felson sought to explain the increase in serious crime following World War II in the United States. Using a time-series analysis of Uniform Crime Report (UCR) data from 1947 – 1974, and sources of data which describe trends in consumer purchasing of goods, business establishments, American activities (e.g., labor force participation, college enrollment, and travel), household structure, Cohen and Felson suggest that crime rates are composed of variations in routine activities, consumer and business trends, as well as technological innovation.

Routine activity theory explains not only how crime occurs, but the necessary elements which converge in physical time and space to create a criminal event (e.g., theft of a purse, or bullying of a student). These three elements are: (1) motivated offender, (2) suitable target, and (3) lack of capable guardian. A motivated offender is an individual who is inclined and able to act on antisocial or criminal desires. A suitable target an individual or object that is especially attractive or desirable to an offender. Capable guardianship reflects a social role held by individuals over suitable targets, as they go about their daily routines. Cohen and Felson point out that the lack of any of these three elements is enough to prevent a criminal event from taking place. Collectively, these three elements at minimum create the opportunity structure for a crime incident to occur. In other words, crime is likely to occur if a motivated offender and suitable target physically converge in space and time without capable guardianship.

Cohen and Felson's perspective asserts that criminal opportunity is a function of social changes in society. Advances in technology, cultural changes in the workforce, and other social and economic changes influence the routine, daily activities of individuals thereby structuring

opportunities for crime. For example, Cohen and Felson point out that after World War II, changes that increased quality of life such as female participation in the workforce and college enrollment, and development of portable technological devices also created opportunity for crime. Technological advances, such as the automobile, small electric-powered tools, and electronic devices have made it easier for offenders to commit crime. In the same vein, Cohen and Felson suggest that changes in individuals' routine activities after World War II contributed to increases in risk of victimization. For instance, following World War II, Americans started spending more time away from home, and engaging in legitimate activities (e.g., work, social interaction, learning, or learning). Time spent away from home engaging in routine activities at various times of the day increased the likelihood of individuals of different backgrounds crossing paths at the same time. So, timing and locations of daily activities structured an offender's access to individuals and property of individuals. Further, like criminal opportunity, technological developments in electronics and other portable, valuable devices (e.g., television) increased risk of victimization as these items were considered attractive and desirable to offenders.

To summarize, Cohen and Felson's routine activity theory has not only been quintessential in explaining how and why crime events occur, but also in understanding variation in victimization by focusing on the routine behaviors of potential targets. Routine (e.g., work and school) and leisurely (e.g., shopping and vacation) activities of targets increase likelihood of exposure to motivated offenders; thereby, increasing attractiveness and suitability, as well as lack of guardianship (Wilcox, 2010). Essentially, the theory has successfully drawn attention to the role of everyday life in constructing criminal opportunities for offenders.

Lifestyle-Routine Activities

Building on the work of Hindelang et al. (1978) and Cohen and Felson (1979), researchers, Cohen, Kluegel and Land (1981) outlined the main components of the lifestyles-routine activities framework in their article, "Social inequality and predatory criminal victimization: An exposition and test of formal theory." In their article, the researchers integrate the lifestyle-exposure and routine activity perspectives into an individual-level test of criminal victimization risk. Cohen and colleagues' micro-level extension of Cohen and Felson's (1979) routine activity perspective asserts that opportunity for victimization or an individual's risk of victimization is structured by four key risk factors: exposure to offenders, guardianship, proximity to offenders, and attractiveness of targets.

The first two risk factors, exposure and guardianship, are components of Hindelang and colleagues' (1978) theoretical concept referred to as lifestyle. *Exposure* is an individual or object's physical accessibility to a potential motivated offender(s). Cohen and colleagues (1981), like Hindelang et al. (1978), hypothesize that exposure would increase a target's risk of criminal victimization. Similar to Cohen and Felson's (1979) theoretical explanation, criminal victimization occurs when contact is made between a potential victim and motivated offender in physical space and time. Further, Cohen and colleagues (1981) point out that the frequency of contact between a potential victim and motivated offender determines more opportunities for victimization to occur.

Guardianship, as defined by Cohen and colleagues, is how successful individuals (e.g., friends, co-workers, police officers, security guards, or parental figures) or objects (e.g., security alarms or cameras, metal detectors, locks, or fences) are in blocking criminal victimization. The researchers suggest that guardianship can be evoked in the physical presence of an individual(s)

or object(s) or the direct or indirect action of a guardian. Since offenders prefer targets that lack guardianship, Cohen et al. posit that an individual or object with more guardianship will have less risk of criminal victimization. This is in line with Cohen and Felson's (1979) assertion that criminal victimization is likely to occur if there is a lack of capable guardianship.

The third risk factor, *proximity*, is based on the "gravity law of distance and social interaction" (Olsson, 1964 cited in Cohen et al., 1981). Cohen and colleagues define proximity as "the physical distance between areas where potential targets of crime reside and areas where relatively large populations of potential offenders are found" (p. 507). The researchers hypothesize targets in close proximity to motivated offenders are at great risk of criminal victimization. Like exposure, a potential target's proximity to a motivated offender is concerned with contact. In other words, individuals or objects in close proximity to motivated offenders are more likely to have contact, thereby increasing opportunity for victimization to occur.

The fourth risk factor, *target attractiveness*, is the desirability of an individual or object to a potential offender. Borrowing from Cohen and Felson's (1979) explanation of target suitability, Cohen and colleagues' (1981) propose that target attractiveness can be expressed in terms of the suitability of a person or object to an offender. A person is suitable if he or she is accessible to the offender (e.g., lack of guardianship) or lacks the ability to resist criminal victimization (e.g., size, weight, or physical or mental impairment). An object is considered suitable if it is accessible (e.g., not protected by a lock, bars, or fence) and able to be moved (e.g., light weight). Cohen et al. further suggest that target attractiveness is shaped by the offender's motivation, which can be instrumental or expressive. *Instrumental* motivation fuels acts based on an offender's desire for obtaining a particular target (e.g., money acquired during a robbery). Alternatively, *expressive* motivation is guided by the sole gratification received from

performing the act (e.g., assaulting a person). The researchers propose that the more desirable or attractive that a target is to an offender, the more likely it will be victimized.

In their theory, Cohen et al. posit that each of the four risk factors will have their own independent effects on victimization risk. Arguably, each of the risk factors influences an individual's daily behaviors and routine activities. Though each risk factor affects opportunity for victimization, together, the risk factors have a cumulative effect. In other words, the researchers suggest that targets in close proximity to potential offenders are more likely to cross paths or be exposed to these offenders. Targets with frequent exposure to offenders tend to be perceived as attractive or suitable, especially if they lack guardianship. Ultimately, these targets have the greatest risk for experiencing criminal victimization. Alternatively, targets that are not in close proximity are not likely to be exposed to potential offenders. Further, targets that are not desirable or that have effective guardianship are least at risk for criminal victimization.

To test their theory, Cohen and colleagues examined the mediating effects of the lifestyle (exposure and guardianship) and proximity on the relationship between structural characteristics (age, race, and income) and predatory crime (burglary, larceny, and assault) using data from the NCS. They expect the relationship between structural characteristics and victimization to be explained by lifestyle and proximity. The results of their analyses indicated support for their theory in that, measures of lifestyle and proximity mediated some of the effects of structural characteristics on criminal victimization. An individual's lifestyle and proximity to potential motivated offenders increased opportunity for crime, therein, their risk of experiencing victimization. For example, age was a significant predictor of criminal victimization. Cohen et al. suggest that lifestyles of younger persons put them in public places that put them in close proximity to motivated offenders. Similarly, those with higher incomes were considered more

attractive targets based on lifestyle and exposure. No significant relationship was found between race and risk of criminal victimization.

The role of Cohen et al.'s four key components (exposure, proximity, guardianship, and target attractiveness) of the lifestyle-routine activities perspective were later reconceptualized by Terrence Meithe and Robert Meier (1990, 1994) in their article, "Opportunity, choice, and criminal victimization: A test of a theoretical model," and book, *Crime and its Social Context, Toward an Integrated Theory of Offenders, Victims, and* Situation, where they introduced their structural-choice theory of victimization. Meithe and Meier assert that opportunity for predatory victimization is determined by structural forces (i.e., exposure and proximity) and choices (guardianship and target attractiveness). They contend that exposure and proximity ultimately shape interactions thus, priming situations or environments which put individuals at risk for victimization. Within a situation or environment, guardianship and target attractiveness influence a motivated offender's choice or selection of a target(s).

Meithe and Meier (1990) posit that each of these components (exposure, proximity, guardianship, and target attractiveness) is necessary to explaining predatory victimization. So, while each component contributes to risk of victimization, the cumulative effect of all components thus, multiplies opportunity for victimization. To test these assumptions, the researchers used self-report data from 5,271 individuals who participated in the 1982 British Crime Survey. Their results indicated support for the importance of exposure and proximity in structuring risk of burglary, theft, and assault victimization. Overall, measures of social guardianship and target attractiveness did not have a direct effect on victimization, nor did they increase an individual's risk of victimization beyond their exposure or proximity to crime. While their results only provided support for exposure and proximity in creating opportunity for

victimization, Meithe and Meier suggested that further research needed to measure the utility of choice factors in predicting victimization.

In sum, Cohen and colleagues' (1981) built on the works of Hindelang et al. (1978) and Cohen and Felson (1979) by merging lifestyle-exposure and routine activity theories into one theoretical model—Lifestyle-routine activity theory (LRAT). Cohen et al.'s (1981) LRAT highlights the importance of exposure, guardianship, proximity, and target attractiveness in predicting criminal opportunity and hence, risk of victimization. In exploring the relationship between structural characteristics and criminal victimization, the researchers found that components of LRAT (exposure, guardianship, and proximity) mediated the effects of structural characteristics on criminal victimization. So, the opportunity for crime or victimization is associated with an individual's lifestyle and proximity to motivated offenders. Meithe and Meier's (1990, 1994) structural-choice theory of victimization further specified the role of exposure, proximity, guardianship, and target attractiveness in shaping victimization. Their results (Meithe and Meier, 1990), however, warrant additional testing and clarification of the role of guardianship and target attractiveness in shaping criminal opportunity.

While Cohen and colleagues' (1981) consolidation of the lifestyle and routine activity perspectives furnished a parsimonious framework for researchers to explain opportunities for criminal victimization, its initial applications have largely centered on understanding risk of adult criminal victimization. Their theoretical contribution presented a need for understanding criminal victimization among other populations (e.g., juveniles and offenders), and in specific contexts or places (e.g., schools, bars, shopping centers, and workplaces). Researchers interested in explaining criminal victimization among youth, have examined the applicability of the LRAT perspective, especially within the context of elementary, middle, and high school settings. And, it

is these efforts, which have laid the foundation for understanding the situational and behavioral antecedents of youth victimization.

Empirical Review of Lifestyles, Routine Activities, and Victimization Among Youth

Many researchers have used the LRAT framework as a vehicle to understand victimization experienced by youth in schools. Their empirical contributions have focused on identifying individual and social factors, conventional and risky lifestyles, and routine behaviors of students, which significantly increase their risk of victimization at school. Specifically, researchers have used the four components of LRAT – exposure to high risk situations, proximity to motivated offenders, lack of capable guardianship, and target attractiveness – to examine school-related violence and victimization among youth. While some studies have found mixed evidence, overall, studies have provided ample support for the LRAT framework. These studies (summarized in Table 2) tend to suggest that components of either conventional (e.g., participation in school activities) or antisocial (e.g., misbehavior in school or deviance, association with delinquent peers or friends) lifestyles and routine activities (e.g., school climate) among youth structure their risk of victimization or attractiveness to motivated offenders, especially within the school setting.

Peguero (2009), using data from the Educational Longitudinal Study of 2002, examined the relationship between involvement in school extracurricular activities, opportunity, and risk of exposure to violent and property victimization at school among youth. To assess the relationship between participation in extracurricular activities and victimization, Peguero included four count measures of school involvement – classroom-related activities (e.g., band or chorus, play or musical, student government, academic or achievement honors society, or yearbook/newspaper), clubs (e.g., service, school academic, hobby, or vocational), intramural sports (e.g., baseball,

softball, basketball, football, soccer, other intramural team sport, other individual intramural sports, or intramural cheerleading/drill team), and interscholastic sports (e.g., baseball, softball, basketball, football, soccer, other interscholastic team sport, other individual interscholastic sport, or interscholastic cheerleading/drill team). School (e.g., percentage of study body receiving free or reduced-price lunch, location of school, such as rural, urban or suburban setting, and size of school, such as small, medium, or large) and individual characteristics (e.g., family SES, race and ethnicity, gender, and educational achievement in math and reading) also were included in his research model.

Logistic regression analyses of data from 10,438 10th grade students yielded support for using LRAT to explain opportunities for victimization among youth. After modeling outcomes for violent and property victimization, Peguero found that increased youth participation or involvement in prosocial school extracurricular activities structures risk of violent and property victimization among adolescent youth at school. Youth involvement in extracurricular activities ultimately, explains away the significance of demographic characteristics, such as race/ethnicity and family SES. Particularly, youth involvement in school clubs has the strongest effect on risk of victimization at school. The results also revealed that youth involved in interscholastic sports activities are less likely to be exposed to violent and property victimization at school. Peguero explained that youth involved in classroom related activities, clubs, or intramural sports may be vulnerable to school victimization because they are perceived to be smart and physically weak, while youth who are involved in interscholastic sports are less likely to be victimized because they are perceived to be popular and have more physical strength (Broh, 2002 cited in Peguero, 2009). It is also possible that interscholastic athletes have more guardianship, especially at

school hosted sporting events (Schimmel, 2006 cited in Peguero, 2009), in the halls, and on school grounds via teammates.

While studies have focused on the role of conventional lifestyles in structuring youth risk of victimization, other studies have accentuated the role of antisocial lifestyle behaviors, risky activities, and association with delinquent peers in understanding victimization among youth. Jensen and Brownfield (1986) examined the role of gender, routine activities, and delinquent activities in explaining opportunity for teenage victimization among 3,644 high school seniors in Tucson, Arizona. The researchers expanded on Cohen and colleagues' (1981) LRAT approach by suggesting lifestyles of teenagers can be "victimogenic" because of the motivations of both the offenders and victims involved. Thus, routine activities or lifestyle behaviors that involve delinquent actions and the "pursuit of excitement and fun" can increase opportunity for teenage victimization. To capture passive and exciting lifestyle behaviors of teenagers, Jensen and Brownfield (1986) used measures of frequency (i.e., how often in past 12 months) of going on dates, driving a vehicle or motorcycle, going to the movies, spending evenings out, riding around for fun, going shopping, going to bars, visiting friends, going to parties, or hours spent working. Delinquency was captured by measuring the frequency of engaging in drug use, violence (assault and threats with/out weapon), property crime (theft and vandalism at work and school), and hell-raising (e.g., drag-raced). Analysis of the cross-sectional data indicated that exciting lifestyles (e.g., spending evenings out, going to bars and parties, and riding around) put teens at risk for victimization more often than passive lifestyle (e.g., going shopping, going to the movies, visiting friends, hours spent working, and going on dates) behaviors. However, the researchers found that when controlling for delinquent behaviors (e.g., drug use, violence, property crime, and hell-raising), the relationship between non-delinquent (i.e., passive and exciting lifestyles)

behaviors and risk of victimization was diminished, and rendered insignificant. Instead, a significant portion of victimization was only explained by youth participation in delinquent activities. Jensen and Brownfield determined that not only is delinquent behavior strongly related to teenage victimization, but that this relationship is stronger than the one found between non-delinquent behavior and opportunity for teenage victimization.

Lauritsen, Laub, and Sampson (1992) also found support for the importance of antisocial lifestyles and behaviors in explaining youth victimization. Using longitudinal data from the first five waves of the National Youth Survey (NYS), and three years (1976, 1980, and 1987) of cross-sectional data from Monitoring the Future Study (MTF), Lauritsen and colleagues explored the effects of both prosocial and delinquent lifestyle behaviors on risk of robbery and assault victimization among adolescents. In their research model, delinquent lifestyle behaviors was measured by the participant's involvement in property crimes (e.g., theft and vandalism), violent crime (e.g., assault), alcohol and drug use, traffic accidents, and having received traffic tickets. Peer participation in delinquent acts served as an additional measure of delinquency or deviant activities. Prosocial activities were measured by the respondent's time spent with family, at school, and in sports or other community activities. Individual (e.g., age, race, sex, SES, and family structure) and neighborhood (e.g., proximity to crime and metropolitan statistical area) characteristics linked to victimization were also included. Results of their analyses suggested that in comparison to participation in prosocial activities, youth who participate in delinquent or deviant activities have an elevated risk of violent victimization across each wave. Further, Lauritsen et al. found that participation in prosocial lifestyle behaviors and activities have little effect on risk of violent victimization, once individual characteristics and delinquent behaviors are accounted for.

Campbell Augustine, Wilcox, Ousey, and Clayton (2002) examined the relevance of components of the opportunity framework (i.e., lifestyle and routine activities) in explaining school-based victimization among 3,183 middle and high school students in Kentucky. They measured exposure and proximity to violent and property victimization using self-reported information concerning serious delinquency and minor aggressive activity. Serious delinquency was a summed measure of the following: "weapon and gun possession, weapon use, cocaine and inhalant use, drunkdriving, drug trafficking, arrest and school suspension" (p. 237). Minor aggressive activity was a summed measure of the students' dichotomous (yes/no) responses concerning "involvement in fist fighting, throwing objects at someone, punching someone, and pulling at someone" (p.237). Results of their logistic regression analyses indicated a strong positive association between lifestyle measures, exposure and proximity, and opportunity for school-based victimization. Essentially, serious delinquency and minor aggressive activity structured student risk of violent and property victimization at school.

Schreck, Wright, and Miller (2002) used data from 1,139 9th, 10th, and 11th grade students in Arkansas to examine how individual and situational factors structure violent victimization for adolescents. Schreck and colleagues explored the direct and indirect effects of situational characteristics on risk of personal violence through measures of family and school ties, risky lifestyle, and association with delinquent peers. Risky lifestyle was a two-item measure of how often the respondent went out at night to hang out with someone and hours per week spent driving around with friends. Association with delinquent peers was measured by the number of the respondent's close friends who have been arrested by the police. The main individual characteristic included in the analysis was self-control. Results of their multivariate analysis indicated that both individual and situational factors structure adolescent risk of personal

victimization. While self-control had the strongest relationship with personal victimization, Schreck et al. found that adolescents who participated in risky lifestyles had the greatest risk of personal victimization, regardless of self-control. Association with delinquent peers had a positive direct and indirect effect through participation in risky lifestyles on risk of personal victimization.

Using the first wave of the National Longitudinal Survey of Adolescent Health (Add Health), Schreck, Fisher, and Miller (2004) explored how characteristics of the friendship-network structure youth vulnerability to violent victimization. To explore this relationship, Schreck et al. included measures of peer delinquency, social bonds, lifestyle, and friendship-network characteristic (centrality, density, and popularity). Peer delinquency was a summed measure of peer-nominated participation in each of the following risky acts during the previous 12 months: cigarette smoking, drinking alcohol, getting drunk, skipping school, doing risky things on a dare, and racing cars and bikes. Popularity was measured by the number of ties a participant was nominated as a friend by his or her peers, while density was the number of friendship ties that were sent and received by the participant. Centrality was the number of friendship ties needed to connect all of the youth in the participant's network. Social bonds were measured by the participant's attachment to other peers, attachment to his or her parents, and school alienation or the participant's closeness to his or her school. Lifestyle or involvement with friends was an average of the number of times that the participant spent with his or her friends in the past week.

Results from their Poisson regression models highlighted the role of adolescents' peer or friendship networks in shaping risk of violent victimization (p. 40). Schreck et al. explained that characteristics (e.g., density, centrality, and popularity) of peer or friendship networks could put

adolescents at risk for violent victimization by exposing them to motivated offenders (i.e., other peers). Such characteristics could make it difficult for adolescents to establish and sustain capable guardianship, thus making them attractive targets to motivated offenders. The researchers also found that peer delinquency conditions the relationship between characteristic of peer networks and violent victimization. In other words, the amount of violent victimization experienced is determined by an adolescent's social ties to delinquent peers (p. 41). Lastly, support was found for measures of social bonds, such as attachment to parents and school alienation. Attachment to parents had a negative significant relationship with violent victimization, while school alienation had a positive significant relationship.

In addition to the role of risky behaviors and peer associations, some studies have explored the importance of elements of school climate in structuring guardianship, exposure and proximity to motivated offenders. Schreck, Miller, and Gibson (2003) used survey data from 6,418 junior and senior high school students who participated in the School Safety and Discipline component of the 1993 National Household and Education Surveys (NHES-SSD), to determine which risk factors better explained victimization at school. Schreck and colleagues were specifically concerned with the effects of individual, school, and community factors on adolescent risk of property and violent victimization while at school. Couched in the LRAT framework, individual risk factors included in the study were family income, year at school, alienation from school, carried a weapon to school, believes that rules are unfair, and exposure to delinquent friends. Family income served as a measure of target attractiveness, while unfair rule environment and alienation from school were measures of individual guardianship. The researchers asserted that youth who were more likely to report alienation and that school rules

were unfairly administered were less likely to be closer to teachers and other school staff, thus decreasing their guardianship from property and violent victimization at school.

Data concerning school characteristics, such as exposure and guardianship were obtained from parents. School measures of exposure included in the analyses were whether the school was public or private, located in the neighborhood where the youth lived, approximate size of the school's student body, youth is a member of a racial minority, and the presence of drug dealers, gangs, and weapons on school grounds. Measures of school guardianship included in the analysis were presence of guards and metal detectors, locking of doors, use of visitor sign-in, adult supervision in hallways, limitations on restroom use, use of hall passes and corporal punishment, and drug education (Schreck et al., 2003).

Results of Schreck et al.'s logistic regression confirmed that individual, school, and neighborhood characteristics are relevant to predicting risk of school victimization. An adolescent's risk of victimization while at school was especially linked to exposure to motivated offenders. For example, adolescents who reported living in communities that they perceived to be unsafe were at an increased risk of victimization. In addition, risk of victimization is positively linked to the presence of drug dealers, weapons, and gangs at school. Youth have an increased risk of being in close proximity to drugs dealers, weapons, and gangs if they are present at school. Thus, these youth are more at risk of experiencing victimization while at school. Independent of the presence of deviants at school, adolescent risk of victimization is associated with having delinquent friends. The researchers also found support for the relationship between individual characteristics of guardianship (e.g., unfairness of school rules and alienation) and risk of victimization at school. Specifically, adolescents who reported that

school rules were unfair and alienation from school were at an increased risk of victimization at school.

Though Schreck and colleagues' results were largely supportive of LRAT, they did indicate that some of the LRAT measures were not supported. For example, the measure of target attractiveness, family income, was not associated with risk of school victimization. In other words, family income did not increase violent or property victimization for adolescents at school. Characteristics of school guardianship, such as the presence of security guards and metal detectors did not reduce risk of school-related victimization for adolescents.

Using four waves of survey data collected from 10,522 Kentucky public school students who participated in the longitudinal study, Rural Substance Abuse and Violence Project (RSVP), Wilcox, Skubak Tillyer and Fisher (2009) examined the role of gender in shaping opportunity structure for school-based victimization among youth. Using measures of LRAT, Wilcox and colleagues were particularly interested in exploring the assumption that middle and high school student participation in certain activities may expose them to potential offenders, which increases risk of victimization for girls more than boys. To test this assumption, Wilcox et al. (2009) used measures of LRAT and low self-control, that have been found in previous research to structure opportunity for school-based victimization. Measures of guardianship, such as attachment to parents, school and peers and student grade point average (GPA) were captured for both girls and boys. Attachment to parents was a 24-item index that captured the nature of the relationship between the youth and their mother and father. Youth responses to 24 questions were averaged for girls and boys to create separate measures of parental attachment. Similarly, attachment to school was captured for both girls and boys, by averaging responses to six items that assessed students' relationships with their teachers and feelings towards school. The researchers also

included GPA for girls and boys, which served as another measure of attachment or commitment to school. GPA was youth perception of their academic performance on an ordinal scale (1=Mostly F's to 5=Mostly A's). Like attachment to parents and attachment to school, youths' relationships with their peers was assessed for girls and boys separately. Specifically, attachment to peers was an average of youth responses to six survey items that asked youth about their level of agreement with statements designed to evaluate feelings towards their closest friends.

Exposure to potential motivated offenders was captured with measures of youth involvement in prosocial and antisocial activities, as well as association with individuals who engage in misconduct. Involvement in prosocial activities was assessed with two single-item variables that ask youth about their frequency of participation in school sports, like cheerleading, football, basketball and tennis and frequency of participation in other school activities, such as band, student government and yearbook. Involvement in antisocial activities was a scale that gauged youth self-reported participation in criminal behavior during the current school year, such as robbery, assault, vandalism and theft. Participation in criminal behavior was measured by averaging girls' and boys' responses separately. Association with delinquent peers was a 17-item index of respondents' closest friends' participation in non-violent and violent behaviors. Youth responses to 17 dichotomous (1=yes, 0=no) questions regarding their closest friends' participation in delinquent behaviors, such as drug and alcohol use, theft, and drug dealing, were averaged to provide an overall exposure to offenders for girls and boys. The researchers also incorporated a measure of impulsive personality, which was an index of 11 statements that assessed dimensions of impulsivity, such as frustration, restlessness and ability to control temper. Student responses to these items were averaged to provide an overall score for girls and boys (Wilcox et al., 2009). Control variables, such as race and socioeconomic status (SES) were

included, as well. Race was measured as a dichotomous variable (1=Non-White and 0=White) and SES was the average of student responses to two seven-point scale survey questions about the educational attainment of their mothers and fathers.

After using hierarchical logistic regression analyses to estimate assault and theft victimization outcomes for boys and girls, Wilcox et al. (2009) found that gender moderated the effects of risky lifestyles – particularly, criminal involvement – on youth risk of assault and theft victimization. The researchers also found that measures of exposure to motivated offenders, as operationalized by youth involvement in non-sports activities and delinquent peers, were positively related to both male and female risk of theft and assault victimization. Attachment to peers, which was a measure of guardianship, was negatively related to risk of experiencing assault victimization. In other words, boys and girls who reported stronger levels of attachment to their peers, were less likely to experience being assaulted by their peers. Additionally, Wilcox et al. (2009) found support for low self-control in being an important factor in understanding youth risk of victimization. Specifically, the results indicated that boys and girls with low self-control were more likely to be at risk for experiencing theft and assault victimization. Thus, while the researchers were primarily interested in understanding the effect of gender on boys and girls' risk of experiencing assault and theft victimization, the results indicated support for risky lifestyles and guardianship in predicting risk of victimization among youth.

Burrow and Apel (2008) conducted a test of the LRAT perspective by examining the role of individual, household, and school characteristics in predicting community and school victimization among 16,000 youth who participated in the 2001 and 2003 School Crime Supplements (SCS) of the National Crime Victimization Survey (NCVS). Inspired by the broader literature concerning the role of opportunity in explaining victimization, Burrow and

Apel (2008) were focused on the behavioral and structural school-related characteristics in predicting risk of school assault and larceny among youth.

To explore these relationships, Burrow and Apel built a research model composed of non-school related (individual and household characteristics) and school-related (individual and school characteristics) predictors. Non-school related individual characteristics, such as age, sex, and whether the respondent was a racial minority, served as measures of exposure and target attractiveness. For household characteristics, which also capture characteristics of the neighborhood within which a school is situated and a respondent lives, the researchers included two measures of proximity – central-city residence and residential instability. Household characteristics included in the analysis that served as measures of exposure and guardianship/target attractiveness were family income, intact family structure, and family size. For school-related individual characteristics, Burrow and Apel incorporated measures of exposure and guardianship/target attractiveness such as scholastic performance, college expectations, participation in extracurricular activities, whether the respondent has a long commute to school or leaves school for lunch, antisocial behavior (e.g., skipped classes, fought at school, and brought a weapon to school), and whether the respondent had a sibling in the same school. For school characteristics, the researchers assessed proximity to violence and victimization through measures of whether the respondent was assigned to a public school or middle school, and school disorder; a summed measure of the presence of gangs, hate-related graffiti, and availability of drugs or guns at school. Physical security, non-physical security, and rule clarity were included as measures of school guardianship. Physical security was a summed measure of the presence of target hardening strategies at school, such as security guards, metal detectors, and security camera. Non-physical security was a summed measure of the presence of

adult supervision in the hallways, visitor sign-ins, locker checks, student identification, and established code of conduct. Rule clarity was a summed measure of the respondent's agreeance with the following: rules are strictly enforced, all students are aware of the school rules, and that punishments for rule violations are well-known to students and strictly enforced.

Using logistic regression to model outcomes for larceny and assault, Burrow and Apel found that with respect to school victimization, youth who were not strong academic performers and skipped classes were at an increased risk of assault and larceny victimization. Similarly, youth who had a history of engaging in fighting were also at an increased risk of both assault and larceny victimization at school. These findings were consistent with previous studies that found a positive association between deviant or risky lifestyles and victimization among youth. Their results indicated a positive relationship between long commutes to school and risk of school assault. They hypothesized that long commutes to and from school may put youth in closer proximity to high-risk activity spaces or places in neighborhoods or on school grounds. Consistent with prior research, Burrow and Apel found that physical (e.g., security guards) and non-physical (e.g., locker checks) security measures were largely insignificant in predicting risk of school assault and larceny victimization, while school disorder and clarity of school rules did have an impact on student risk of both assault and larceny victimization at school.

Similar to Burrow and Apel, Cho, Hong, Espelage and Choi (2017) used survey response data from a national sample of youth who participated in the 2007 SCS to examine the relationship between behavioral and environmental characteristics, and risk of physical and nonphysical peer victimization. More specifically, Cho and colleagues used LRAT to identify situations that elevate risk of experiencing physical and nonphysical peer victimization among some youth.

To test LRAT, Cho et al. (2017) identified lifestyle, activity and environmental survey items that directly measured main constructs – Proximity, exposure, target attractiveness and guardianship. Proximity to crime was one survey item that assessed the respondent's distance from school to work. Exposure to motivated offenders was measured using three (3) variables – (a) illegal substances (i.e., cocaine, marijuana, crack, uppers, downers, LSD, PCP, and heroin) in school, (b) access to guns in school and (c) illicit substances (i.e., students on drugs or alcohol and offered drugs or alcohol) in school. Collectively, these three variables were used to tap into the effect of school environment on youth risk of peer victimization. To measure target attractiveness, the researchers incorporated survey items that captured youth participation in extracurricular activities (i.e., athletics, arts, academics, student government, service clubs, and other school activities) and the method of transportation (i.e., walking, school or public bus, and car or bicycle) used to get home from school. Formal and informal guardianship, as well as school security were used to measure capable guardians. Formal guardianship was a summed measure from five survey items that assessed the respondent's agreeance with statements concerning their knowledge of the school rules, as well as the consequences and punishments associated with breaking the rules, and their perception of the fairness and enforcement of these rules. Informal guardianship was a summed measure from four survey items that captured the respondent's perception of teachers' interactions (i.e., respectful, caring, help solve problems and make feel bad) with students. School security was a summed measure from nine survey items that assessed presence of the following during the last school year: Security guards, safety staff or adults in hallway, metal detectors, locked doors, visitor sign-in, locker checks, identification badge requirement, security cameras and code of conduct that focuses on safety.

After estimating negative binomial regression models for both outcomes – physical and nonphysical peer victimization, Cho and colleagues (2017) found support for capable guardianship variables, informal and formal guardianship, in reducing risk of youth experiencing both physical and nonphysical peer victimization. Consistent with previous research (see Burrow and Apel, 2008), school security applications had little impact on peer victimization. The researchers also found support for prior studies (see Mustaine and Tewksbury, 2002; Schreck et al., 2003; Schreck et al., 2002; Wilcox et al., 2006) that suggest exposure to motivated offenders increases youth risk of victimization. More specifically, school environments that have guns and illegal substance, increase youth exposure to delinquent peers and offenders, thereby increasing risk of victimization. Results of the analyses also indicated support for proximity to motivated offenders explaining youth risk of peer victimization. Youth who stated that they walk home from school or take the school or public bus, reported an increased likelihood of experiencing both physical and nonphysical peer victimization. With respect to target attractiveness, the researchers found that youth who participated in art extracurricular school activities reported experiencing physical and nonphysical victimization by way of their peers. This is supported by previous explanations (see Cross, Gottfredson, Wilson, Rorie, and Connell, 2009 cited in Cho et al., 2017) that youth who participate in in-school activities that are unstructured in nature or lack consistent adult monitoring or presence, are likely to increase risk of victimization.

In a recent study, Cho, Glassner, Kim and Park (2019) use a nationally representative sample of 5,621 youth who participated in the 2007 SCS, to determine if accounting for the immunity effect will fine tune researchers' understanding of the relationship between LRAT factors and risk of peer victimization. Cho and colleagues assert that many students who participated in the SCS did not report experiencing physical or nonphysical victimization, which

results in an excessive number of zeros in the data. Failure to account for this, could lead to biased results or the immunity effect which occurs when the risk is inflated for those who would not otherwise be vulnerable.

Cho et al. (2019) test LRAT using the same measures of motivated offenders, proximity to crime, target attractiveness and capable guardianship that were included in Cho and colleague's (2017) study. For their analysis, however, Cho et al. (2019) estimated both negative binomial regression (NB) and zero-inflated negative binomial (ZINB) models. The researchers used NB, as the outcome variables, incidents of physical and nonphysical peer victimization, were not random or due to chance. To account for the immunity effect, ZNIB was also used because it allowed for Cho and colleagues to identify features of youth who are low risk, as well as those who are high risk for physical and nonphysical peer victimization in school environments.

Results from both analytical models – NB and ZINB – suggest support for using LRAT to predict risk of peer victimization among youth. Specifically, both models and prior studies indicate that youth with access to illegal substances and guns, who participate in arts-related and other school activities have an increased risk of victimization. Additionally, results of both models illustrate that youth who noted having formal and informal guardianship were less likely to report being victimized by their peers. Thus, youth with capable guardianship have a lower risk of experiencing victimization.

In addition to consistencies in results, Cho et al. (2019) also noted that inconsistencies were found between the results of the models and previous studies which did not consider the immunity effect. Cho and colleagues (2019) suggest that their results point to support for using ZINB to account for both excessive and true zeros in studies. The researchers explain that some

youth may be immune or not at risk of victimization due to lack of target attractiveness, exposure to motivated offenders, or proximity to crime. This is different from youth who do not experience victimization, but are exposed to offenders, near crime, are considered to be an attractive target or lack capable guardianship.

While the results of their study provide some direction for future research, Cho and colleagues (2019) acknowledge that they were not able to sufficiently explore causality. Because the researchers used cross-sectional data, they were not able to pinpoint the causal mechanism(s) that amplifies or reduces youth risk of experiencing peer victimization. Thus, in future studies where the presence of excessive zeros is likely, researchers should use longitudinal data and ZINB to specify a model that seeks to refine prediction of peer victimization among youth.

Overall, these studies provide support for components of the LRAT model – exposure, proximity, and guardianship. Specifically, they provide empirical evidence for a direct relationship between lifestyle-routine activities of youth, and risk of victimization. Researchers have demonstrated the relevance of prosocial and antisocial lifestyle-routine activities, and behaviors with predicting risk of victimization among youth. Participation in prosocial lifestyle choices such as school-related extracurricular activities can increase youth exposure or proximity to potential motivated offenders. As expected, youth participation in deviant activities and association with peers who engage in deviant activities increase opportunity or risk for victimization. These studies also illustrate the influence of environmental factors, such as relationships with parents and peers, school climate, ties to school and youth risk of victimization. School campuses perceived to have lower potential for violence, are less likely to expose youth to victimization. Youth with healthy attachments to peers, parents, and school are less likely to be at risk for victimization, as they are likely to have capable guardians.

Though much of the research discussed up until this point has highlighted the importance of components of the LRAT framework (e.g., exposure, proximity, and guardianship) in explaining school-related criminal victimization among youth, majority of these studies have focused solely on experiences of personal and/or property victimization. While these studies have helped to understand the role of lifestyle behaviors and routine activities in shaping opportunity for violence and victimization in school settings, arguably they fail to capture victimization most often experienced by youth – bullying. Studies that have used the LRAT framework (or components of) to predict risk of bullying victimization among youth are growing in number. The next subsection summarizes these studies.

Lifestyles, Routine Activities, and Bullying Victimization

Though much evidence exists that supports the relationship between measures of LRAT and youth exposure to violence, capable guardianship and proximity to motivated offenders while at school, few studies have examined the effects of such measures on risk of bullying victimization. The results of existing studies (Garofalo, Siegel, and Laub, 1987; Peguero, 2008; Popp, 2012; Cecen-Celik and Keith, 2019; Cho and Lee, 2018; Choi, Earl, Lee and Cho, 2019 - see Table 3) demonstrate how theoretically useful LRAT is in predicting risk of bullying victimization.

Garofalo, Siegel, and Laub (1987) highlighted the relevance of daily, routine behaviors of youth in shaping school-related victimization. Using interviewer narratives of the NCS, the researchers examined characteristics of school-related victimizations among 373 adolescents. Of the 850 reported victimizations, 454 were school-related in that they occurred traveling to and from school or while on school grounds. In analyzing the 454 school-related victimizations,

Garofalo and colleagues found majority of these incidents were the result of peer interactions that took place during daily routine activities. The researchers explained that students often come together or interact without the presence of capable guardians increasing the opportunity for bullying or teasing and deviance.

Using data from a nationally representative sample of 7,990 10th grade public school students who participated in the Education Longitudinal Study of 2002, Peguero (2008) examined the effects of student involvement in extracurricular activities on risk of bullying victimization. Specifically, attempted to answer the following research questions. First, does student involvement in different types of extracurricular activities (e.g., classroom-related, club, interscholastic sports, and intramural sports) and deviance (e.g., skipping classes and getting in trouble for not following school rules) reduce or increase the risk of bullying victimization while at school? Second, if so, how does each type of extracurricular activity and deviance affect risk of bullying victimization? To answer these questions, Peguero (2008) estimated logistic regression models with measures of individual characteristics derived from student self-report survey data. The dependent variable, bullying victimization, was a dichotomous measure of six items that asked students about their experiences with potential types of bullying during the first term of the school year. Measures of bullying experiences were being threatened at school, hit, strong-armed for money or other possessions, bullied or picked on, having something stolen while at school, and experiencing damage or destruction of personal property. To assess student involvement in prosocial and antisocial activities, Peguero (2008) included four measures – classroom-related, school club, intramural sports, and interscholastic sports – that represented degree of participation (e.g., none, one or two, or three or more) in each of the different types of extracurricular activities, and one measure – misbehavior – of participation in deviance. The

measure, classroom-related activities, was composed of five items – band or choir, school play or musical, student government, academic or achievement-related honor society, and school yearbook or newspaper. School club was composed of the following four items: Service, school academic, hobby, and vocational education or student organization. The variable, intramural sports, was an eight-item measure that gaged student involvement in baseball, softball, basketball, football, soccer, other intramural sport, individual intramural team, and cheerleading or drill team. School sports was a seven-item measure constructed from the following: Baseball, softball, basketball, football, soccer, other school team sports, and individual sports. The dichotomous variable, misbehavior, assessed participation in one or both of the following: Skipped classes and got in trouble for not following school rules. In addition, Peguero (2008) included individual characteristics – Student SES, sex, race/ethnicity, and achievement – which served as controls.

After estimating logistic regression models, Peguero (2008) highlighted four important findings from his study. First, students involved in three or more classroom-related activities or intramural sports were likely to report being a victim of bullying. So, significant involvement in such extracurricular activities did not provide some form of protection from bullying victimization. Instead, involvement in such extracurricular activities increased student risk of being bullied. Second, in comparison to youth involved in classroom-related activities, intramural sports, and clubs, youth involved in interscholastic sports were less likely to be victimized. As noted by Peguero, youth who are involved in more structured and competitive sports are likely to have great physical strength, while youth involved in intramural sports and classroom-related activities may be physically weak, thus making them more attractive to bullies. Third, there was variance in the effects of each type of extracurricular activity on risk of

bullying victimization. Citing Feldman and Matjasko (2005, 2007), Peguero pointed out that differences in risk of victimization across each type of extracurricular activity is associated with how students, teachers, and parents view each of these school activities. In other words, the nature of each extracurricular activity is unique, so it is plausible that they would not share the same positive or negative outcomes associated with bullying. Lastly, youth who engaged in deviance, such as skipping classes or getting in trouble for breaking school rules were at risk for bullying victimization. Peguero (2008) noted that this finding was consistent with previous research (see Decker and Van Winkle, 1996; Mustaine and Tewksbury, 1998; Schreck et al., 2002) which suggests delinquent and risky behaviors structure risk of violence and victimization among youth.

Popp (2012b) extended previous research on school-based criminal victimization with her examination of the applicability of the LRAT in explaining risk of bullying victimization among youth. With self-reported data from 8,031 youth who participated in the 2007 wave of the SCS, she explored the role of exposure, proximity, guardianship in structuring risk of physical and social bullying victimization. The two outcome measures, physical and social bullying victimization were dichotomous. For example, physical bullying victimization was determined by whether a student had experienced at least one of the following during the 2006-2007 school year: threatened, pushed or tripped, forced to do things against will, or personal property was destroyed. Social bullying victimization was whether a student experienced name calling, rumor spreading, or was excluded by peers during the 2006-2007 school year. To test the effects of exposure and proximity on student risk of bullying victimization, Popp incorporated eight variables – classroom-related activities, school clubs, school sports, been in a fight, skipped class, drugs in school, guns in school, and gangs in school – into her logistic regression model.

Classroom-related activities measured whether a student had participated in performing arts (e.g., band or choir), academic clubs (e.g., debate team, Honor Society, Spanish club, and Math club), or student government in the past six months (p. 321). School clubs assessed whether a student had participated in volunteering or community service sponsored by the school in the past six months, while school sports measured student membership of an athletic team or spirit group (e.g., cheerleading, dance team, or pep squad) in the last six months (p. 321). Been in a fight and skipped class served as measures of antisocial or risky lifestyle behaviors, while drugs in school, guns in school, and gangs at school assessed the student's school climate.

To examine the effect of guardianship on risk of being bullied, Popp (2012b) included three variables in her empirical model: social support, rule fairness, and school security. The measure, social support, was a score which assessed whether the student had a friend he or she could talk to, an adult at school that cared about him or her, and an adult or friend that would help him or her solve problems. Rule environment was a count, ranging from 0 to 5 that measured student perception of fairness and enforcement of school rules. School security was a count of security features (e.g., security guards or assigned police, staff or adult hallway supervision, metal detectors, locked entrances or exits, visitor sign-in, locker checks, student identification badges, security cameras, and code of student conduct) as identified by students. In addition, Popp included student characteristics, such as age, sex, race/ethnicity, type of school student attended during the 2006-2007 school year (public or private), and GPA as control variables in her research model.

Results of Popp's logistic regression analyses indicated support for the LRAT framework in predicting risk of bullying victimization among youth in school. Key components of the LRAT framework - exposure, proximity, and guardianship – had an effect on student risk of

being bullied. For example, for youth who indicated having dependable social support, or that he or she attended a school where rules are fair and strictly enforced, had a lower risk of being bullied. Like previous research concerning school victimization (see Peguero, 2008, 2009), Popp found that youth who reported participating in school extracurricular activities had an elevated risk of being bullied. She noted that student participation in classroom-related extracurricular activities oftentimes, take place after school hours, thus resulting in a lower level of guardianship and adult supervision. Further, there is significant peer interaction during such extracurricular activities, which can put youth in contact or proximity of potential motivated offenders. Similar to prior research (see Burrow and Apel, 2008; Campbell Augustine et al., 2002; Schreck et al., 2003; Schreck et al., 2004), youth who engaged in school deviance (e.g., skipping class or fighting) were at risk of bullying victimization. Popp explained that youth who engage in school deviance are likely to be bullied because they are more likely to interact with motivated offenders in locations where guardianship is weak; thereby increasing their risk of exposure to bullying victimization.

More recent studies (Cecen-Celik and Keith, 2019; Cho and Lee, 2018; Choi, Earl, Lee and Cho, 2019) have continued to explore the utility of LRAT in predicting bullying victimization with cross-sectional data collected from American youth. For example, using the 2011 SCS, Cecen-Celik and Keith (2019) take an interest in whether previously explored characteristics and lifestyles are meaningful in understanding risk of bullying victimization among American youth. Ultimately, the researchers attempt to verify causes of direct and indirect bullying victimization to aid in better identification of youth who are more likely to be targeted.

Though framed in the context of routine activity and social bond theories, ultimately, the researchers conducted a partial test of LRAT using indicators of guardianship and exposure. To measure guardianship, Cecen-Celik and Keith (2019) included the variables, physical security and interactionist security. Physical security was a sum of eight items that measured the presence of security guard or police officers, locked entrances/exits, adult supervision in hallways, metal detectors, visitor logs, locker checks, security cameras and identification on school grounds. A proxy for guardianship, interactionist security, was created from five-items that assessed the youth's agreeance with statements concerning the fairness, knowledge and implementation of school rules, as well having an adult or friend to talk to or who cares about them. These items were summed to create an overall attachment to school. Exposure to motivated offenders was captured using two dichotomous measures (0=no, 1=yes) – sports and non-sports activities – of youth participation in school-related activities.

Cecen-Celik and Keith (2019) also included a dichotomous (0=female, 1=male) predictor of gender, as well as controls for race, Hispanic origin, school type, household income, age and time at risk. Race was represented using four dummy variables – White, Black, Asian and Other – while, Hispanic origin was a dichotomous (0=no, 1=yes) variable that indicated whether the student self-identified as being of Hispanic origin. School type highlighted whether the respondent's school was public or private and household income was a proxy for SES. Age was included, as survey respondents were between 12 to 18 years of age and time at risk took into account the length of time (i.e., months) that the respondent attended their current school prior to completing the interview. The outcome variables – direct and indirect bullying victimization – were dichotomous (0=no, 1=yes) indicators of whether the youth reported experiencing an action that was classified to be bullying. To clarify, for direct bullying victimization, respondents

received a "1" if they had been pushed or shoved, threatened, spit on, forced to do something, or their property destroyed. Indirect bullying victimization was an indicator of the respondent being the subject of teasing, exclusion or rumors by their peers.

Results of their logistic regression models Cecen-Celik and Keith's (2019) provided some support for both guardianship and exposure to motivated offenders in explaining risk of bullying victimization among youth. Specifically, the presence of interactionist security measures reduced youth risk of experiencing direct and indirect bullying victimization. This finding was consistent with previous research (see Schreck et al., 2013; Popp, 2012b) which suggests youth with strong bonds or attachments to school are less likely to experience bullying. Thus, positive bonds or attachments to school act as a protective factor for youth. Respondents who participated in non-sports school activities were also more at risk for experiencing direct and indirect bullying. As noted in prior studies (see Peguero, 2009; Popp 2012; Cho et al., 2017), youth who are involved in school activities are likely to be exposed to potential offenders, as they tend to have less supervision than more structured activities, such as sports. If used as an indicator of target attractiveness, youth who participate in school activities that are non-sports related may be viewed as weak or easy targets to potential bullies (see Peguero, 2008).

The researchers also highlighted findings that were consistent with previous research. Cecen-Celik and Keith (2009) reported that physical security measures had no impact on risk of youth experiencing direct or indirect bullying. While this recurring finding (see Schreck et al., 2003; Burrow and Apel, 2008) suggests lack of support for physical security measures (e.g., metal detectors, security guards, locker checks and security cameras), the researchers acknowledge that the study does not take into account the number of physical security features or size of the school. Though their findings did not support an expected positive relationship

between being male and risk of direct bullying, they did confirm previous studies (see Baldry and Farrington, 1999; Jeong and Lee, 2013; Olweus, 1993; Putallaz et al., 2007; Siann et al., 1994; Whitney and Smith, 1993) that suggest female youth are at an increased risk of experiencing indirect bullying victimization.

Cho and Lee (2018) conducted a partial test of LRAT to make sense of the risk and protective factors for bullying status. The researchers used cross-sectional data obtained from 12,642 adolescent students across the United States who participated in the 2009-2010 Health Behavior in School-Aged Children (HBSC) Survey. The HBSC attempts to better understand attitudes, lifestyles, social environments and health behaviors among adolescent youth. Ultimately, Cho and Lee (2018) use the HBSC data to examine how relationships with parents, peers and teachers affect three (3) types of youth – bullies, victims and bully-victims.

Like Cecen-Celik and Keith (2019), Cho and Lee's (2018) research model is partially based on social control theory. More specifically, the researchers included three latent factors – Parental, peer and teacher attachments – that were focused on measuring the strength of common relationships among youth. Parental attachment was created from five-items that assess presence of parents or guardians being (1) helpful, (2) loving, (3) understanding, (4) easygoing about fun and (5) making decisions, and (6) comforting when upset. Peer attachment was constructed with three-items to assess respondents' view of their classmates in terms of helpfulness, acceptance and likability in class. Respondents' perception of how their teachers view their performance in school was an item used to represent teacher attachment. Though these measures were included to explore the role of different forms of control in preventing bullying victimization, they represent proxy measures of guardianship.

Cho and Lee (2018) also incorporated a measure of risky lifestyles or exposure to motivated offenders with the variable, delinquent peers. This variable was based on five-items that measured the respondent's friends' participation in delinquent behaviors, such as smoking, drinking, getting drunk, marijuana use and weapon carrying. Gender, age, grade and race were also included in the analysis as controls. Gender (0=female, 1=male) and race (0=Non-White, 1=White) were both dichotomous measures, while age and grade were averages. To measure outcomes, the researchers used items that represented physical, verbal and social (a) bullies, (b) victims and (c) bully-victims. To clarify, both physical bullies and physical bullying victims were assessed with a single item that assessed the frequency of youth participation in physically bullying others and being bullied via hitting, kicking, pushing, shoving and locking indoors. Verbal bullying was created with four-items that measured frequency of youth participation in or experiencing of teasing, racial name calling, religious name calling, and sexual harassment. Social bullying measured frequency of youth participation in or experiencing of ostracizing and rumor spreading.

Using logistic regression, Cho and Lee (2018) modeled outcomes of physical, verbal and social bullying across three (3) types of bullying status - bullies, victims and bully-victims. Results of their analyses indicated support for both LRAT constructs, exposure to motivated offenders and guardianship. Cho and Lee (2018) note that youth who were exposed to delinquent peers, were more likely to be bullies, victims and bully-victims across all types (i.e., physical, verbal and social) of bullying. The researchers found that even after controlling for guardianship (i.e., parental, peer and teacher attachments), that exposure to delinquent peers remained a significant predictor. Cho and Lee (2018) highlight that this finding is consistent with previous studies that have reported a positive relationship between frequent exposure to delinquent peers

and involvement in bullying (see Cho, Hong, Sterzing and Yoo, 2017; Espelage, Bosworth, and Simon, 2000; Hong, Kim and Piquero, 2017; Haynie, Nansel, Eitel, Crump, Saylor, Yu and Simons-Morton, 2001 cited in Cho and Lee, 2018). The researchers also point to parental and peer attachments as having direct and partial mediating effects on all bullying statuses. As supported by previous research findings (see Fekkes et al., 2005; Nickerson et al., 2008; Barboza et al., 2009 cited in Cho and Lee, 2018), adolescents' relationships with their parents and peers can be quite persuasive, in that they act as protective or risk factors for bullying.

In an effort to guide prevention practices, Choi, Earl, Lee and Cho (2019) investigated the ability of LRAT constructs – Exposure to motivated offenders, target attractiveness and capable guardianship - to predict risk of cyberbullying victimization and nonphysical-bullying victimization among adolescents who participated in the 2013 SCS. To measure exposure to motivated offenders, Choi et al. (2019) used four variables – Availability of illegal substances, substance use, guns, and gang activity – to assess the school environment. Illegal substances on school grounds was a count variable created from ten-items that measured availability of drugs such as marijuana, crack, ecstasy, heroin and prescription drugs. Student substance use while at school, guns on school grounds and gang activity on school grounds were dichotomous (0=no, 1=yes) single-item measures. To capture target attractiveness, five (5) variables – Athletics, performing arts, student government, spirit groups and community service – were identified to represent youth participation in school-related extracurricular activities. To measure, capable guardianship, the researchers used the following variables: Formal guardianship, informal guardianship and school security. A factor composed of five-items that assessed the presence and enforcement of school rules were used to create the variable, formal guardianship. The variable, informal guardianship, was constructed from two-items that assessed respondents' perception of

their teachers' treatment of students. School security was a count of eight-items that measured the presence of security features, such as security guards, metal detectors, visitor sign-ins, and locker checks. For their analysis, Choi and colleagues (2019) also incorporated sex and race as control variables. Both sex and race were dichotomous variables that were measured as 0 for female and 1 for male, and 0 for Other and 1 for White, respectively.

Using structural equation modeling and logistic regression, Choi et al. (2019) found that measures of LRAT predicted outcomes for both non-physical and cyber bullying victimization. For exposure to motivated offenders, Choi and colleagues used variables – Availability of illegal substances at school, use of substances at school, guns on school grounds and gang activity at school – to assess the role of school environment in understanding youth risk of non-physical and cyber bullying victimization. Consistent with previous studies (see Popp, 2012b; Holt et al., 2016; Cho et al., 2017), their analyses indicated that all measures – sans guns on school grounds – were significant predictors of bullying victimization. Of these indicators, student use of substances on school grounds, was the strongest predictor of youth risk of bullying victimization. In testing target attractiveness, Choi et al. (2019) used indicators of youth participation in extra-curricular activities such as athletics, spirit groups, performing arts, student government and community service. The researchers found that the only significant predictor of non-physical and cyber bullying victimization was performing arts. Their results also acknowledged a near significant relationship between participation in spirit groups and bully victimization, but no significant relationships for athletics or student government. Because these results suggest both consistency with and deviation (see Cho et al., 2017; Cecen-Celik and Keith, 2016; Cho and Wooldredge, 2017; Schreck and Fisher, 2004) from previous research, the nature of relationship between these activities and bullying victimization is not clear. Despite this lack of clarity, Cho

and colleagues (2019) noted support for both formal and informal guardianship in understanding bullying victimization. Specifically, appropriate enforcement of school rules and positive relationships with teachers independently reduce youth risk of both non-physical and cyberbullying victimization. Like prior studies (see Schreck et al., 2003; Popp. 2012; Cecen-Celik and Keith, 2016; Cho and Wooldredge, 2017; Cho et al., 2017), security measures (i.e., guards/police, metal detectors, visitor logs, identification badges, code of conduct and anonymous reporting system) were not significant predictors of bullying victimization. Choi et al. (2019) offer that while non-significance of such school security measures could be due to prevalence, they do not seem to be effective in preventing bullying victimization.

While majority of previous tests of LRAT have used samples of American youth, recent studies (Cho, Wooldredge and Park, 2016 and Cho and Wooldredge, 2018) have extended application of the theory to Korean youth. For example, using four waves of the Korean Youth Panel Survey (KYPS), Cho, Wooldredge and Park (2016) examined the relationship between cross-sectional and longitudinal changes in lifestyle-routine activities and bullying victimization among 3,121 Korean youth. Lifestyle-routine activities was tested using measures of its main constructs – Guardianship, target suitability and proximity/exposure to motivated offenders. Guardianship was conceptualized with measures (i.e., relationship with parents, parental awareness and relationship with teachers) that tapped into the relationship youth have with their parents and their teachers. Target suitability was measured using youth participation in activities, such as on-site school clubs and off-site cyber clubs. The variables, school location, average number of hours spent studying weekly and average number of hours spent weekly at work, were used to represent potential proximity or exposure to motivated offenders.

Using latent growth curve modeling or "slopes on slopes" to explore whether changes in bullying victimization align with changes in youth lifestyles, Cho et al. found that youth with greater participation in school activities over time, were significantly more likely to be bullied. Cross-sectional or "intercepts on intercepts" analyses indicated youth who reported to have strong relationships with their parents were more at risk for experiencing bullying. This was in opposition to the finding that strong relationships with teachers, ultimately reduced youth risk of being bullied. As such, results of Cho and colleagues' analyses suggest mixed support for estimating bullying victimization among Korean youth over time.

Like Cho et al. (2016), Cho and Wooldredge (2018) focused on understanding the role of activities and networks in predicting risk of victimization among youth. In an effort to make cross-cultural comparisons, Cho and Wooldredge (2018) used self-report survey data from two samples of data – KYPS and 2007 SCS – which were obtained from 3,343 Korean and 4,990 American adolescents, respectively. Despite variation in measurement of survey concepts, the researchers attempted to create models with similar variables. Both samples included binary outcomes of bullying, physical assault (i.e., physical assault) and verbal (i.e., threat) victimization. Activities that potentially expose youth to motivated offenders was measured using variables for whether the youth had a job and their participation in school activities, school clubs and clubs outside of school. Attachment to teachers and peers were included as measures of informal social control or guardianship.

After using binary logistic regression models to estimate victimization outcomes among Korean and American youth, Cho and Wooldredge (2018) found that across both the Korean and American models, youth who participated in non-school club activities were at an increased risk for experiencing bullying victimization. Korean and American youth participation in school

sports reduced their risk of physical victimization. Cho and Wooldredge (2018) note that these findings align with previous research that suggest non-school activities are likely to have less supervision, which allow for more opportunities or exposure to potential motivated offenders. Furthermore, school sports activities tend to be more structured, thereby increasing supervision and fewer opportunities for physical victimization. Youth who reported having a job were also significantly more likely to experience victimization than youth who did not have a job. Cho and Wooldredge (2018) explain that some workplaces increase risk of exposure to potential motivated offenders, which can lead to victimization. And consistent with previous research (see Schreck and Fisher, 2004; Farrington, 1993; Hodges and Perry, 1999; and Nansel et al., 2001), teacher and peer attachments were found to be significant protective factors for American youth. Strong prosocial ties or networks at school may provide guardianship, which reduces opportunities for victimization. Though teacher and peer attachment were not found to be significant predictors of victimization risk among Korean youth, Cho and Wooldredge (2018) suggest the variation in findings may be due to differences in construction of the attachment measures across the two models or that these factors are not as important to understanding risk of victimization among Korean youth.

The growing number of studies that have used the LRAT to predict bullying victimization among youth, have found support for a direct relationship between lifestyle-routine activities and bullying victimization. Youth with consistent participation in classroom-related extracurricular activities were more at risk of being exposed to bullying victimization, as they reported closer proximity to bullies. Participation in deviant acts also increased youth risk of being bullied, as these youth are likely to hang out with other youth who bully their peers. Thus, such youth are less likely to have capable guardians who can reduce their exposure to bullying

victimization. Environmental factors, which act as indirect measures of guardianship, have also been linked to bullying victimization. Specifically, youth with dependable social support (e.g., parents, teachers, or friends) and who attend schools with clear, strictly enforced rules are less likely to report being bullied. In other words, healthy or stable attachments to parents, peers, teachers, or other adults, foster guardianship over youth, resulting in lower risk of bullying victimization. Orderly school environments are more likely to have active guardians, thereby reducing their student populations' risk of bullying victimization.

Summary of Empirical Evidence for LRAT

In sum, empirical tests of the lifestyle-routine activity theory among youth in school have produced mixed results. Majority of these studies have found fairly consistent support for the exposure, proximity and guardianship components of the LRAT framework, while support for target attractiveness components has been less clear. Particularly, most studies that have tested the LRAT framework have failed to adequately test the effects of target congruence on bullying victimization among youth. The lack of direct testing of target attractiveness or suitability in much of the literature concerning youth victimization at school, however, is not surprising. Many researchers suggest that attempts to measure target attractiveness or suitability often have resulted in variation in findings across studies due to methodological problems, and flaws in theoretical operationalization (Popp, 2012b; Augustine et al., 2002; Finkelhor and Asdigian,1996; Lauritsen et al., 1992; Meier and Miethe, 1993).

In more recent years, the need to clarify the definition of target attractiveness among populations of youth has led to further theoretical development and testing. Incorporation of theoretical concepts, such as target congruence and self-control has aided researchers in understanding the antecedents of victimization among youth. As such, this dissertation replaces

the LRAT component, target attractiveness, with target congruence to further clarify antecedents of bullying victimization in school. Further, the present study focuses on predicting risk of bullying victimization, as operationalized by several different types of teasing experienced by youth. By considering multiple bullying outcomes experienced by youth, this dissertation is able to test for possible unique differences in individual characteristics and lifestyle- routine activities which structure risk for such incidents.

Table 2 – 1: Key Applications of Lifestyle Routine-Activities to School Victimization.

Authors	Data Source	Dependent Variable(s)	Explanatory Variable(s)	Significant Effects
Peguero (2008)	Educational Longitudinal Study of 2002	Violent victimization Property victimization	Classroom-related activities; Clubs; Intramural sports; Interscholastic sports; Percentage of students who receive free or reduced lunch School location (Urban and Rural);School size (Large and Medium); Family SES; Achievement; Race (Black, Latino, White, and Asian American); Gender	Classroom-related (+); Clubs (+); Intramural sports (+); Interscholastic sports (-); Female (-); Achievement (-);
Jensen and Brownfield (1986)	Monitoring the Future Study (MFS); 1977 study of "delinquency in a middle-class high school"	Violent victimization Property victimization	Activities (Evenings out, Dates, Drive, Movies, Ride for fun, Visit friends, Shopping, Bars, Parties, and Job); Offense behavior (Drug use, Violence, Property crime, and Hellraising); Delinquency (Assault, Robbery with Weapon, Theft, Auto Theft, Trespassing and Vandalism)	Evenings out (+); Dates (+); Drive (+); Movies (+); Ride for Fun (+); Visit friends (+); Bars(+); Parties (+)

Authors	Data Source	Dependent Variable(s)	Explanatory Variable(s)	Significant Effects
Lauritsen, Laub, and Sampson (1992)	National Youth Survey (NYS); MFS	Assault victimization Robbery victimization	Deviant/Risky activities (Theft, Assault, Vandalism, Alcohol and Marijuana use, Traffic tickets and accidents; Partying); Peer delinquency; Conventional activities (Time studying, Time in school activities, Sports activities, Community activities, Time with peers, Go to movies, Reading, Watch television, Spend time alone, and Time with peers); Attachment to school; GPA; Family activities; Attachment to family	Time studying (-); GPA (-); School importance (-); Attachment to school (-); Family activities (-); Attachment to family (-); Community activities (+); Peer delinquency (+); Alcohol use (+); Marijuana use (+); Partying (+); Time with peer (+); Receive traffic tickets (+)
Campbell Augustine et al. (2002)	Kentucky Youth Survey	Violent victimization Property victimization	Exposure/Proximity (Serious delinquency and Minor aggressive activity); Target vulnerability (Age and Male); Target antagonism Impulsive personality, Black, and Other minority race); Target gratifiability (SES); School size; Metropolitan area	Serious delinquency (+); Age (-); Impulsive personality (+); School size (+); Metropolitan area (+/-); Male (+); Minor aggressive activity (+); Other minority race (+)

Authors	Data Source	Dependent Variable(s)	Explanatory Variable(s)	Significant Effects
Schreck, Wright, and Miller (2002)	Fayetteville Study	Violent victimization	Self-control; Attachment to family; Commitment to school; Risky lifestyles; Delinquent peers; Receipt of welfare; Male; Number of siblings; Number of parents	Self-control (-); Delinquent peers (+);
Schreck, Fisher, and Miller (2004)	ADD Health study	Violent victimization	Peer delinquency; Centrality; Density; Popularity; Social bonds (Attachment to parents, Alienation from school, and Attachment to friends); Black; Male; Age; Parents married; Public	Black (+); Male (+); Public Assistance (+); Attachment to parents (-); School Alienation (+); Involvement with friends (+); Peer delinquency (+); Density (-); Popularity (-); Centrality x Peer delinquency (+); Density x Peer delinquency (+); Popularity x Peer delinquency (+)

Authors	Data Source	Dependent Variable(s)	Explanatory Variable(s)	Significant Effects
Schreck, Miller, and Gibson (2003)	1993 National Household and Education Survey, School Safety and Discipline (NHES-SSD)	Violent victimization Theft victimization	Race (Black, Hispanic, and Other); Male; Grade level; Unsafe neighborhood; Percentage Black; Guards; Metal detectors; Locked doors; Visitor sign-in; Restroom Limits; Supervise hallways; Locker Checks; Hall passes; Drug education; Corporal punishment; Public school; Local school; School population size; Student is in minority; Drug dealers on campus; Others bring weapons; Gangs at school; First year at school; Brings weapon; Believes rules are unfair; Delinquent friends; Family income; Alienation toward school	Male (+); Grade level (+); Corporal punishment (+); Student is in the minority (+); Drug dealers on campus (+); Others bring weapons (+); Gangs at school (+); Brings weapon (+); Believes that rules are unfair (+); Delinquent friends (+); Alienation toward school; Locker checks
Burrow and Apel (2008)	2001/2003 School Crime Supplements (SCS) of National Crime Victimization Survey (NCVS)	School Assault School Larceny	Age; Male; Minority; Central-City residence; Residential instability; Family income; Intact family structure; Family size; Scholastic performance; College expectations; Extracurricular Activities; Long commute to school; Leave school or lunch; Skipped classes; Fought at school; Brought weapon to School; Sibling in same school; Public School; Middle school; School disorder; Physical security; Non-physical security; Rule clarity	Age (-); Minority (-); Family income (+); Intact family structure (-); Scholastic performance (-); Extracurricular activities (+); Long commute to school (+); Skipped classes (+); Fought at school (+); School disorder (+); Rule clarity (-)

Authors	Data Source	Dependent Variable(s)	Explanatory Variable(s)	Significant Effects
Wilcox, Skubak Tillyer and Fisher (2009)	Rural Substance Abuse and Violence Project	School theft victimization School assault victimization	Race (non-White and White); SES; Parental attachment; School attachment; Peer attachment; GPA; Involvement in school sports; Involvement in other school activities; Criminal behavior; Delinquent peers and impulsivity	Theft victimization Boys: Involvement in school sports (+); Impulsivity (+); Delinquent peers (+); Criminal behavior (+); SES (+) Girls: Parental Attachment (-); School Attachment (-); Peer Attachment (-); Involvement in school sports (+); Involvement in other school activities (+); Impulsivity (+); Delinquent peers (+); Criminal behavior (+); SES (+); Assault victimization Boys: GPA (-); Peer Attachment (-); Involvement in school sports (-); Involvement in other school activities (+); Impulsivity (+); Delinquent peers (+); Criminal behavior (+); Race (+); SES (+) Girls:

Authors	Data Source	Dependent Variable(s)	Explanatory Variable(s)	Significant Effects
Cho, Hong, Espelage and Choi (2017)	2007 SCS of the NCVS	Physical peer victimization Non-physical peer victimization	Illegal substances in school; Access to illicit drugs/alcohol Access to guns; Distance; Athletics; Arts; Student government; Academics Service clubs; Other school activities; Walking; Taking bus; Formal guardianship; Informal guardianship; School security; Male; Age; White; Income; Public school	Physical victimization: Formal guardianship (-); Informal guardianship (-); Illicit substances in school (+); Guns in school (+); Arts (+); School government (-); Walking (+); Bus (+) Non-physical victimization: Formal guardianship (-); Informal guardianship (-); Illicit substances in school (+); Guns in school (+); Arts (+); Walking (+); Bus (+)
Cho, Glassner, Kim and Park (2019)	2007 SCS of the NCVS	Physical peer victimization Non-physical peer victimization	Illegal substances in school; Access to illicit drugs/alcohol; Access to guns; Distance; Athletics; Arts; Student government; Academics; Service clubs; Other school activities; Walking; Taking bus; Formal guardianship; Informal guardianship; School security; Male; Age; White; Income; Public school	Physical victimization: Substances in school (+); Distance (+); Arts (+); Other school activities (+); Formal guardianship (-); Public school (+) Non-physical victimization: Substances (+); Guns (+); Arts (+); Bus (+); Formal guardianship (-); Informal guardianship (-); Security(-)

Table 2 – 2: Summary of Empirical Applications of Lifestyle Routine-Activities to Bullying Victimization

Authors	Data Source	Operationalization of Bullying Victimization	Explanatory Variable(s)	Significant Effects
Garofalo, Siegel, and Laub (1987)	National Crime Survey (NCS) - Narratives	N/A	Place of occurrence (at/near home, Street, School, and Other); Victim-offender Relationship (Stranger, Sight only, Casual acquaintance, and Well Know)	School-related victimizations linked to bullying and injured pride; School-related victimizations increase in severity in unsupervised settings
Peguero (2008)	Educational Longitudinal Study of 2002	Dichotomous variable (yes/no) Six-item scale - (1) someone threatened to hurt me at school, (2) someone hit me, (3) someone used strong-arm or forceful methods to get money or things from me, (4) someone bullied me or picked on me, (5) something stolen from me at school, and (6) someone purposely damaged or destroyed my belongings	Family SES; Female; Achievement; Race and Ethnicity (Latino and Black);School activities (Classroom-related, Clubs, Intramural sports, and Interscholastic sports); Misbehavior	Family SES (+); Female (+); Achievement (+); Black (+); Latino (+); 3+ Classroom-related activities (+); Intramural sports (+); Interscholastic sports (+); Misbehavior (+)

Authors	Data Source	Operationalization of Bullying Victimization	Explanatory Variable(s)	Significant Effects
Popp (2012)	2007 SCS of the NCVS	Physical bullying victimization: dichotomous variable (yes/no) Four-item scale – (1) threatened, (2) pushed, shoved, or tripped, (3) made to do things against will, (4) personal property destroyed Social bullying victimization: dichotomous variable (yes/no) Three-item scale – (1) called Names or made fun of, (2) rumors (2) rumors spread about you, and (3) excluded by peers	Classroom-related activities; School clubs; School sports; Been in a fight; Skipped class; Drugs in school; Gun in school; Gangs in school; Peer or adult support; Rule Fairness; School security; Age; Female; Race (Black/African American and Hispanic/Latino); Private school; GPA	Age (-); Black (-); Latino (-); GPA (-); Classroom-related activities (+); Been in a fight (+); Skipped class (+); Drugs in school (+); Gun in school (+); Gangs in school (+); Peer/adult support (-); Rule fairness (-); Female (+); Private school(+)
Cecen-Kelik and Keith (2016)	2011 SCS of the NCVS	Direct bullying victimization: dichotomous variable (yes/no) Four-item scale – (1) threatened, (2) pushed, shoved, or tripped, (3) made to do things against will (3) made to do things against will, (4) personal property destroyed Indirect bullying victimization: dichotomous variable (yes/no) Three-item scale – (1) called you names or made fun of, (2) spread rumors about you, (3) excluded by peers	Male; Guardianship (physical security and interactionist security); Target suitability (Sports and non-sports activities); Race (White, Black, Asian, Other); Hispanic origin; Public school Household income; Age; Time at risk	Direct bullying victimization: Interactionist security (-); Non-sports activities (+); Asian (-); Hispanic (-); Age (-) Indirect bullying victimization: Male (-); Interactionist security (-); Non-sports activities (+); Age (-); Time at risk (+); Hispanic (-)

Authors	Data Source	Operationalization of Bullying Victimization	Explanatory Variable(s)	Significant Effects
Cho and Lee (2018)	2009-2010 Health and Behavior in School-Aged Children Survey (HBS	Physical bullying: dichotomous variable (yes/no) Single item – Hit, kicked pushed, shoved around, or locked indoors Verbal bullying: dichotomous variable (yes/no) Four-item scale – (1) called Names/made fun of/teased, (2) called mean names about race/ color, (3) called mean names about their religion, (4) made Social bullying: dichotomous variable (yes/no) Two-item scale – (1) left out of things on purpose and (2) told lies about them Bullying status: Bullies; victims; bully-victims	Exposure (delinquent peers); Guardianship (parental, peer and teacher attachments Gender/sex	Physical bullying Victims – Gender (+); Grade level (-); Delinquent peers (+); Parental attachment (-); Peer attachment (-) Bully-victims - Delinquent peers (+); Parental attachment (-); Peer attachment (-) Verbal bullying: Victims – Gender (-); White (+); Delinquent peers (+); Parental attachment (-); Peer attachment (-) Bully – victims - Delinquent peers (+); Parental attachment (-); Peer attachment (-); Teacher attachment (-) Social bullying: Victims – Gender (-); Grade level (-); White (+); Delinquent peers (+); Parental attachment (-); Peer attachment (-) Bully-victims – Gender (-); Grade level (-); Delinquent peers (+); Parental attachment (-); Peer attachment (-)

Authors	Data Source	Operationalization of Bullying Victimization	Explanatory Variable(s)	Significant Effects
Choi, Earl, Lee and Cho (2019)	2013 SCS of the NCVS	Cyber bullying victimization: dichotomous variable (yes/no) Six-item scale: (1) Hurtful information on the internet, (2) Private information, photos, videos on the internet, (3) threats via email, (4) threats via IM or chat, (5) threats or insults via text messaging, (6) excluded from online communications Nonphysical bullying victimization: dichotomous variable (yes/no) Eight-item scale: (1) Made fun of, (2) spread rumors, (3) threatened you, (4) pushed/shoved/tripped, (5) forced to do unwanted things, (6) excluded, (7) property destroyed, (8) happened this year	Exposure (availability of illegal substances, student substance use, guns at school and gang activity at school); Target attractiveness (athletics, arts, student government, spirit groups and community activities); Guardianship (Formal - school rule, Informal - teacher relationship, Security - security guard, adult supervising hallway, metal detector, visitor sign-in, student id, security camera, code of conduct and anonymous reporting system)	Cyberbullying victimization: Availability of drugs/alcohol (+); Substance use (+); Arts (+); School rules (-); Teacher relationship (-) Nonphysical bullying victimization: Availability of drugs/alcohol (+); Substance use (+); Gang activity (+); Arts (+); School rules (-); Teacher relationship (-)

Authors	Data Source	Operationalization of Bullying Victimization	Explanatory Variable(s)	Significant Effects
Cho, Wooldredge Park (2016)	KYPS (4 waves)	Collective bullying victimization: Dichotomous variable (yes/no) – Bullied by group of youths or teased by any youth during the past year	Guardianship (relationship with parents, parental awareness and relationship with teachers); Target suitability (school clubs and offsite school clubs); Proximity/exposure to motivated offenders (school location, hours spent studying and hours at job)	Relationship with parents (+); Relationship with teachers(-); School clubs (+); Cyber clubs (+)
Cho and Wooldredge (2018)	KYPS (1 wave) 2007 SCS of the	Korean model: Dichotomous variable (yes/no) – Bullied by group of youths or teased by any youth during the past year US model: Dichotomous variable (yes/no) – Bullied during past year (teased, spread rumors about, pushed/shoved/tripped, destroyed property)	Both models: Target suitability (athletics, clubs, outside of school clubs) Guardianship (teacher Attachment and peer attachment); Male; Household income; Household size; Size of residential area Korean model: Delinquent peers US model: Age; Nonwhite	Korean model: Delinquent peers (+); Income (-);Other clubs (+); Job (+) clubs (+); Job (+) US model: School clubs (+); Other clubs (+); Job (+); Teacher attachment (-); Friend attachment (-); Age (-); Nonwhite (-); Large population areas (-)

RECONCEPTUALIZING LIFESTYLE-ROUTINE ACTIVITIES

During its course of development, the lifestyle-routine activities framework has sustained the interest of many researchers. Some interest has led to extensions of the perspective in which reconceptualization of the theoretical concepts has led to understanding of victimization in various populations (e.g., juveniles and offenders), and contexts or places (e.g., schools, bars, shopping centers, and workplaces). Further, researchers also have explored risk and opportunity of victimization at various levels or units of analysis (e.g., individuals, blocks, neighborhoods, and cities) (Lynch and Cantor, 1992). It was, however, Cohen et al.'s (1981) publication that became the first micro-level extension of Hindelang et al.'s (1978), *lifestyle-exposure* and Cohen and Felson's (1979), *routine activity* perspectives. In their publication, Cohen et al. (1981) outline and test four key concepts –exposure, guardianship, proximity, and target attractiveness—which structure the lifestyle-routine activity framework.

As introduced by Cohen and colleagues (1981), the LRAT framework is rooted in explaining risk of criminal victimization among adults. In essence, the original framework is focused on explaining the relationship between lifestyle behaviors, routine activities, and incidents of criminal victimization, arguably the result of stranger-perpetrated street crime, (i.e., robbery). Because of its emphasis on the role of lifestyles and focus on explaining street crime and victimization, some researchers, such as Finkelhor and Asdigian (1996) have put forth notable alternative perspectives or modifications of Cohen et al.'s (1981) LRAT framework to explain youth victimization.

Finkelhor and Asdigian's (1996) target congruence perspective draws attention to the importance of identifying individual attributes and characteristics of youth which make them vulnerable to different types victimization. Specifically, Finkelhor and Asdigian's (1996) target

congruence perspective serves as a departure from Cohen et al.'s (1981) contribution in that youth victimization is best explained by attributes and characteristics which put youth at risk without relation to lifestyle or routine behaviors, or risky activities.

The extension provided by Finkelhor and Asdigian (1996) has drawn attention to characteristics of individuals that put them at risk for victimization. More specifically, the theories have helped researchers to gain insight into characteristics of youth that are attractive to potential offenders, thereby shedding light on offender's target selection processes.

Target Congruence

The target congruence perspective offers a modified version of the LRAT approach to explain different forms of victimization that youth primarily experience. LRAT is believed by some researchers, such as Finkelhor and Asdigian (1996), to be limited in its ability to adequately explain youth vulnerability to various types of victimization. Specifically, Finkelhor and Asdigian, spotlight that previous applications of LRAT have focused on the role of delinquent behavior in conditioning risk of victimization among youth. While participation or proximity to delinquency is likely to increase victimization for some youth, Finkelhor and Asdigian argue that not all youth are involved in or exposed to delinquency. Further, individual attributes (e.g., sex, physical impairments, self-esteem, and physical strength) parental relations (e.g., attachment) associated with youth victimization are not lifestyles or routine activities. Instead, these are attributes or characteristics which structure risk of victimization. While these attributes may change or affect youth lifestyle behaviors or routine activities, risk of victimization is determined or elevated by the attribute(s) that is congruent with the needs or desires of the offender.

To address the limitations of the LRAT framework, Finkelhor and Asdigian introduce an alternative theoretical model, target congruence (TC). TC is a process arguably, more suited to explaining youth vulnerability to victimization than LRAT. Specifically, the TC perspective focuses on environmental conditions and individual attributes and characteristics of a child that enhance their vulnerability or protection from victimization. The mechanism for risk is not a child's routines or lifestyles; instead, personal characteristics of the child appeal to or are congruent with the offender's motivations, desires, or needs. Therefore, risk or vulnerability resulting from these personal characteristics, attributes, and environmental conditions are independent of a child's lifestyles or routine activities (Finkelhor and Asdigian, 1996).

The process of target congruence increases youth risk by way of one of the following: (1) target vulnerability, (2) target gratifiability, or (3) target antagonism. *Target vulnerability* suggests that some youth have characteristics that make it difficult to be able to defend themselves against victimization, such as mental illness, lack of physical strength, or physical or emotional impairment. With respect to *target gratifiability*, some youth are at risk for victimization simply because they have characteristics, attributes or skills that offenders want access to or to take advantage of, such as gender (i.e., male or female), SES (i.e., has expensive possessions), or age (i.e., young or prepubescent). In other words, the child has some feature or possession the offender is looking for. For youth who have characteristics, attributes, or skills that evoke jealousy or anger in offenders, their risk of victimization is best explained by *target antagonism*. Examples of characteristics that lead to target antagonism include: race or ethnicity, homosexuality, physical appearance, religious orientation, and personal opinions.

Using data from the National Youth Victimization Prevention Survey, Finkelhor and Asdigian examine the explanatory power of their target congruence perspective to ascertain

whether it serves as a more appropriate explanation for predicting risk of youth victimization (e.g., nonfamily assault, sexual assault, and parental assault) than conventional lifestyles and routines. In their hierarchical logistic regression analyses, Finkelhor and Asdigian include six measures of target congruence; six measures of target vulnerability (e.g., two indicators of physical stature, physical limitations, psychological distress, social competence, and age), one measure of target gratifiability (e.g., female sex), and two measures of target antagonism (e.g., youth disobedience and physical limitations). The researchers also include five measures of environmental conditions (e.g., community violence, parental supervision, risky behavior, positive parent-child relationship, and parental structure) and two sociodemographic control variables (e.g., race and educational level of head of household). After modeling the effects of the explanatory variables (e.g., environmental conditions, target congruence, and sociodemographic) across the outcome measures (e.g., nonfamily assault, sexual assault, and parental assault) Finkelhor and Asdigian find that target congruence, especially measures of target vulnerability (e.g., psychological distress and age) are significant predictors of youth victimization, independent of measures of conventional lifestyles and routines. The researchers suggest that lifestyles perspectives are insufficient in explaining why some individuals are more at risk for victimization or "differentially targeted" by offenders.

To summarize, Finkelhor and Asdigian's target congruence perspective suggests that some individuals are more vulnerable or at risk of victimization due to personal characteristics that are "congruent" with an offender's needs or motivations. These characteristics are independent of one's lifestyle or routine behaviors. While Finkelhor and Asdigian suggest that TC is a departure from LRAT, the component, target gratifiability, is similar to target

attractiveness. Therefore, their perspective highlights the importance of understanding target attractiveness in predicting risk of victimization among youth.

Empirical Review of Target Congruence and Victimization Among Youth

Few studies have explicitly examined the role of TC (target attractiveness, target antagonism, and target gratifiability) in explaining victimization among youth. Results (see Campbell Augustine et al., 2002, Tyler and Beal, 2010 and Zavala, 2018) suggest moderate support for Finkelhor and Asdigian's (1996) TC, especially with respect to target antagonism (e.g., impulsive personality, race, and sexual orientation), target gratifiability (e.g., dealing drugs, gang membership and gun carrying) and target vulnerability (e.g., age, gender, being afraid and staying out late). For example, Campbell Augustine et al. (2002) used individual characteristics of middle and high school students to test TC. To measure target gratifiability, the researchers created a proxy variable for SES by averaging the mother and father's highest level of attained education. Campbell Augustine and colleagues suggest that SES will have a stronger effect on youth risk of property victimization than violent victimization as material possessions are likely to be the source of offender motivation. So, students with high SES are more likely to have an increased risk of property victimization, while students of low SES are more likely to be at risk for violent victimization. Variables, age and sex, were used to measure target vulnerability. Campbell Augustine et al. proposed that risk of victimization in school settings is elevated for younger students and female students during pubescence because these groups tend to be physically weaker than older students, as well as male students. Target antagonism was measured with two dichotomous (yes/no) variables of race, Black and other minority, and a variable for impulsive personality, which was an average created from a 17-item "sensation-

seeking/impulsivity scale." Minority students have a higher likelihood of victimization in rural Kentucky schools, whereas White students are at risk of victimization in inner-city schools. Youth with impulsive personalities are more likely to exhibit irritating and aggressive behavior, which is likely to provoke potential offenders.

Results of Campbell Augustine et al.'s analyses indicated moderate support for target vulnerability and target antagonism. A significant relationship was found between impulsive personality and school-based property and violent victimization for both middle and high school students. Students who reported higher levels of impulsivity, also tended to report experiencing violent and property victimization at school. As expected, a negative significant relationship was found between age and school-based violent and property victimization for high school students. As students increased in age, their risk of experiencing victimization while at school declined. In comparison to White middle school students, other minority students had a higher risk of property victimization while at school. The researchers did not find a significant relationship between gender and school-related victimization, or their measure of target gratifiability, SES.

Tyler and Beal (2010) explored predictors for opportunity of physical and sexual victimization among homeless youth. Using data from youth who participated in the Homeless Young Adult Project, the researchers included measures of LRAT and TC. Specifically, to test TC, the researchers included the following variables in their analysis: gender, age, sexual orientation, appearance, and grooming. Though not specified by Tyler and Beal, ultimately, each variable attempted to tap into a dimension (target vulnerability, target gratifiability, and target antagonism) of TC. Age, and a gender reflected target gratifiability, while target antagonism was measured by the respondent's reported of sexual orientation. Appearance and grooming were used as proxy measures for SES or resources, and self-esteem, thus reflecting target gratifiability.

To test LRAT, Tyler and Beal (2010) included variables to reflect the proximity, exposure, and guardianship components of the theoretical framework. Proximity was measured with three variables; count of times the respondent ran away from home, average of nights spent on the streets weekly, and age that the respondent first ran away from home. To measure exposure, the researchers incorporated risky lifestyle variables, such as association with deviant peers, time spent hanging out with friends, frequency of engaging in panhandling, participation in prostitution, and friends' participation in trading of sex. The guardianship component was measured with a variable which captured whether the respondent has a family member in their social network.

After modeling outcomes for sexual and physical victimization, Tyler and Beal (2010) found mixed support for TC and LRAT. Their results indicated that target gratifiability (e.g., gender), target antagonism (e.g., GLB orientation), and target vulnerability (e.g., unattractive appearance) had a positive direct effect on youth risk of sexual victimization, but not risk of physical victimization. In other words, no statistically significant relationship was found between measures of TC and physical victimization. Deviant lifestyle-routine activities, such as association with deviant peers and engaging in deviant behavior increased homeless youth' exposure to potential offenders, thus increasing their risk of sexual and physical victimization.

Zavala (2018) tested the applicability of the target congruence perspective in understanding correlates of both victimization risk and participation in criminal behavior among male high school students. More specifically, Zavala used proximate measures of target vulnerability, target gratifiability and target antagonism obtained from the National Survey of Weapon-Related Experiences, Behaviors, and Concerns of High School Youth cross-sectional dataset. Target vulnerability was measured with a summed scale of the respondent's level of

being afraid, whether someone in the respondent's home received public assistance and average number of nights out that the respondent has during the week. Target gratifiability was captured using a measure of frequency of selling drugs, whether the respondent was a gang member, and frequency of gun carrying. And to measure target antagonism, Zavala (2018) included average of grades, respondent's participation in extracurricular activities, and frequency of church attendance.

Results from Zavala's (2018) logistic regression models indicated some support for the ability of target congruence to predict risk of violent victimization and participation in criminal behavior among male high school students. The target vulnerability measures, level of being afraid and frequency of staying out late, were found to be associated with violent victimization and criminal behavior. While the welfare measure was not found to be a correlate of violent victimization, it was found to be positively associated with criminal behavior. All target gratifiability measures -- dealing drugs, gang membership and gun carrying -- were found to be associated with both violent victimization risk and engaging in criminal behavior. Only one measure of target congruence, low grades, was associated with an increased risk of violent victimization. Low grades were also found to be a correlate of criminal behavior, while higher participation in church attendance reduced the likelihood that a student would report engaging in criminal behavior.

To date, of the few explicit empirical analyses, researchers have reported mixed support for TC. Campbell Augustine et al. (2002) reported moderate support for target vulnerability (e.g., age) and target antagonism (e.g., impulsive personality and race) in predicting school-based property and violent victimization. The researchers, however, did not find support for target gratifiability (e.g., SES). Tyler and Beal (2010) and Zavala (2018) noted mixed support for TC,

as well. Specifically, Tyler and Beal found support for target antagonism (i.e., GLB orientation), and target gratifiability (e.g., appearance and gender) in predicting sexual victimization of homeless youth. This relationship, however, was not found when attempting to predict risk of physical victimization among homeless youth. Zavala found that two of three target vulnerability measures (i.e., afraid and staying out late), one of three target antagonism measures (i.e., grades) and all target gratifiability measures (i.e., dealing drugs, gang membership and gun carrying) were correlated with risk of violent victimization. Overall, Zavala's study provided little support (i.e., extracurricular activities and church attendance) for the construct, target antagonism, in predicting victimization risk among male high school youth.

Target Congruence and Bullying Victimization

While moderate support for TC has been found across school contexts (e.g., middle and high school), as well as different samples of youth, these applications have only been used to explain property, violent, and sexual victimization among youth. To date, researchers have not applied Finkelhor and Asdigian's (1996) TC to understanding risk of bullying victimization among youth. However, as previously discussed, individual characteristics, such as age, physical appearance, size, gender, race, learning and speech disabilities, SES, social competence, impulsive personality, anxiousness, depressive personality, and low self-esteem, which fit within the target congruence model, have been linked to bullying victimization (see Arseneault et al., 2006; Baldry and Farrington, 1999; Cook et al., 2010; D'Esposito et al., 2011; Dawkins, 1996; Egan and Perry, 1998; Espelage and Holt, 2001; Espelage et al., 2001; Goldbaum et al., 2003; Hanish et al., 2004; Haynie et al., 2001; Hodges et al., 1997; Hodges and Perry, 1999; Jeong and Lee, 2013; Lester et al., 2012; Ma, 2002; Mellor, 1999; Nansel et al., 2001; Norwich and Kelley,

2004; Olweus, 1993,1995; Ozer et al., 2011; Pearce et al., 2002; Powell and Jenson, 2010; Putallaz et al., 2007; Reid and Sullivan, 2009; Saarento et al., 2013; Schumann et al., 2014; Siann et al., 1994; Smokowski et al., 2013; Sweeting and West, 2001; Whitney and Smith, 1993; Wolke et al., 2001). In other words, though researchers have not applied TC to bullying victimization, results of their studies have identified potential individual risk factors, which make youth vulnerable to bullies.

Low Self-Control

Another important extension of LRAT is Schreck's reformulation of Gottfredson and Hirschi's (1990) general theory of crime, also known as self-control theory into a theory of vulnerability of victimization. In his publication, "Criminal Victimization and Low Self-Control: An Extension and Test of a General Theory of Crime," Schreck uses Gottfredson and Hirschi's concept of low self-control to explain risk of victimization. Low self-control as outlined by Gottfredson and Hirschi are characteristics such as impulsivity, thrill-seeking, unwillingness to delay gratification, quick to anger, lack of empathy and diligence, and inability to consider long-term consequences. The researchers further suggest that characteristics of low self-control are associated with an individual's propensity to engage in offending.

Inspired by Gottfredson and Hirschi's work, Schreck proposes that the characteristics of low self-control arguably associated with criminal offending also can explain vulnerability to victimization. He suggests that individuals who have any or all characteristics (e.g., impulsivity, thrill-seeking, unwillingness to delay gratification, quick to anger, lack of empathy and diligence, and inability to consider long-term consequences) of low self-control are at an increased risk of criminal victimization. Essentially, individuals with deficits in self-control are one explanation

for how criminal opportunity and property and personal victimization are structured. Schreck refers to this as the victimization-versatility hypothesis, which suggests that self-control directly shapes lifestyle and routine behaviors that can increase an individual's vulnerability to property and personal victimization. For example, individuals who are quick to anger may be at risk of assault if they engage in a verbal altercation with a potential offender who escalates the situation with physical violence. Those who cannot delay gratification may be more likely to cross paths with potential offenders on their journey to satiate their immediate desires, thereby putting them at a higher level of risk for victimization.

Characteristics of low self-control complement Finkelhor and Asdigian's target congruence model. For example, individuals with low self-control may be more likely to evoke negative emotions from potential offenders (e.g., target antagonism), or those who are impulsive or seek immediate gratification may be more attractive to offenders (e.g., target attractiveness). It is possible that individuals who lack self-control is desirable to potential offenders, as they are perceived to be more vulnerable (e.g., target vulnerability). Schreck's theoretical model links characteristics most associated with self-control with lifestyle and routine activity. In turn, variations in self-control are indirectly associated with criminal opportunity, and increased risk of victimization.

Schreck's perspective has undergone extensive testing. In his first test, Schreck used self-report data from 1,039 undergraduate students who participated in the 1996 Tucson Youth Project (TYP) to examine the relationship between low self-control and personal and property victimization. Results of Schrecks' analysis suggested that in addition to criminality, self-control also had a positive direct effect on a student's risk of personal and property victimization. He also found that self-control reduced the effect of demographic characteristics (e.g., income) on

students' risk of victimization. In a follow-up study, Schreck, Wright, and Miller (2002) used data from 1,139 high school students to examine the relationship between individual factors (e.g., low self-control and weak social ties), situational factors (e.g., delinquent peers and time spent in unsupervised activities with peers), and violent victimization. Schreck and colleagues found that low self-control has an indirect effect on violent victimization, as mediated by lifestyles (e.g., delinquent peer group). In other words, self-control is a possible antecedent to lifestyle or routine behaviors, which function as an antecedent to violent victimization. Schreck's empirical testing of his low self-control perspective is also relevant to explaining victimization among middle school students. Using the first three waves (1995, 1996, and 1997) of data from 6th and 7th graders who participated in the Gang Resistance Education and Training (GREAT) program, Schreck, Stewart, and Fisher (2006) sought to determine whether self-control served as an antecedent risk factor for youth victimization. While taking into account previous victimization and individual factors (e.g., parental attachment and school attachment), results evidenced support for low self-control and situational factors (e.g., delinquent friends and delinquency) as an independent predictors of future victimization among youth. Further, results of the analyses supported their hypothesis, and previous research (see Schreck, 1999; Schreck et al. 2002; Schreck et al., 2004) which suggests low self-control to be a predictor of victimization risk (p. 336). For example, Schreck et al. (2006) found that youth with high levels of low self-control at Time 1 (1995), were more likely to report experiencing victimization at Time 3 (1997). Overall, their findings are consistent with previous studies (see Schreck et al., 2002) which suggest that self-control, as well as lifestyle and routine behavioral factors independently affect victimization risk.

To summarize, the low self-control perspective put forth by Schreck has extended the lifestyle-routine activity framework by drawing attention to the role of individual traits in shaping lifestyle and routine behaviors (e.g., deviant peers and delinquent behavior) which in turn, affect risk of victimization. Research by Schreck and colleagues (2002) boasts support for the position that low self-control and lifestyles and routine behaviors have both direct and moderating effects on risk of criminal victimization.

Empirical Review of Low Self-Control and Victimization Among Youth

Many researchers have taken an interest in examining the link between low self-control and victimization among youth. Some researchers (see Schreck et al., 2002; Tillyer, Fisher, and Wilcox, 2011; Schreck et al., 2006; Ren, He, Zhao and Zhang, 2017) have found support for a relationship between low self-control and violent victimization, while others (see Tillyer, Tillyer, Miller, and Pangrac, 2011) have not. Of studies that have explored the relationship between low self-control, risky lifestyles and behaviors, and violent victimization, some results suggest the effect of low self-control on violent victimization is mediated or partially mediated (see Ren, He, Zhao and Zhang, 2016) by youth participation in risky lifestyles (e.g., delinquent peers, gang involvement, exposure to offenders and time spent in unsupervised activities with peers). Alternatively, other studies (see Gibson, 2012) that accounted for risky lifestyles, found that risky lifestyles do not mediate the relationship between low self-control and victimization among youth.

Despite variation in findings, recent research demonstrates support for the exploration of low self-control in victimization research. Specifically, in a meta-analysis of 66 studies, Pratt et al. (2014) found that low self-control has a significant direct effect on offending behavior, and a

modest direct effect on victimization. While the effect of low self-control on victimization is smaller, in comparison to the effects on offending behavior, Pratt et al. purported that these results were in line with previous studies which found that participation in risky behaviors and activities mediates the relationship between low self-control and victimization. Basically, individuals with low self-control are more likely to engage in risky behaviors, thus increasing their risk of victimization.

While research has consistently demonstrated the importance of low self-control in understanding peer victimization, recent research also highlights the need to consider the role of additional personality traits in shaping victimization risk. For example, using self-report data from a sample of 2,912 ninth-grade students who participated in the Rural Substance Abuse and Violence Project (RSVP), Kulig, Cullen, Wilcox and Chouhy (2019) examined the relationship between personality traits and school victimization. Specifically, the researchers were interested in understanding school-based victimization for youth, beyond low self-control and other competing theoretical constructs, such as risky lifestyles and guardianship.

To assess the relationship between personality traits and school-based victimization, Kulig and colleagues (2019) used measures of the Big Five Inventory (BFI) to capture the following dimensions: Extraversion, neuroticism, agreeableness, conscientiousness and openness. Scales for each dimension were created from averaging student responses to the survey items that composed each personality dimension. Like the Big Five personality scales, low self-control was created from averaging student response to survey items that mainly captured impulsivity. To control for potential risk and protective factors that impact youth risk of victimization, Kulig et al. (2019) included measures of lifestyle-routine activity, such as self-reported gang membership and delinquency, as well as association with delinquent peers,

attachment to school and ease of access to illicit opportunities at school, like drugs, alcohol, guns and cigarettes.

To test the relationship between the Big Five personality traits, low self-control and school-based victimization, Kulig and colleagues estimated three multivariate negative binomial regression models. Results of their analysis confirmed previous studies that have found a significant direct effect between low self-control and victimization. Even after controlling for measures of lifestyle-routine activity and other personality traits, low self-control remained a significant predictor of youth vulnerability to school-based victimization. The researchers also found that the personality traits, neuroticism, had significant direct effect on school-based victimization. More specifically, neuroticism increased youth risk of experiencing victimization at school, even when controlling for low self-control. This finding illustrates support for Finkelhor and Asdigian's theoretical construct, target vulnerability, which suggests that youth with emotional impairment or mental illness having difficulty in defending themselves against victimization. Youth with neuroticism are more likely to view their environment negatively or respond to stressors with anxiety, depression and fear; thereby increasing their risk of victimization.

Low Self-Control and Bullying Victimization

Empirical studies (Van Cleave and Davis, 2006; Hodges, Malone, and Perry, 1997; Maszk, Eisenberg, and Gutherie, 1999; Hanish, Eisenberg, Fabes, Spinard, Ryan, and Schmidt, 2004; Ladd and Troop-Gordon, 2003; Arseneault, Walsh, Trzesniewski, Newcombe, Caspi, and Moffitt, 2006; Haynie, Nansel, Eitel, Crump, Saylor, Yu, and Simons-Morton, 2001; Powell and Jenson, 2001; Eisenberg, Fabes, Bernsweig, Karbon, Poulin, and Hanish, 1993), which have

examined direct and indirect relationships between characteristics (e.g., inability to regulate anger, low emotionality, low effortful control, externalizing problems, and reactive relational aggression) reminiscent of low self-control and bullying victimization, have largely been supportive.

Interested in exploring the relationship between emotional expression and peer victimization during childhood, Hanish, Eisenberg, Fabes, Spinrad, Ryan, and Schmidt (2004) examined the role of internalizing (e.g., anxiety and sadness) and externalizing (e.g., anger) behaviors in predicting risk of peer victimization (e.g., called names, hit or pushed) among preschool and kindergarten students. The researchers predicted that negative emotionality (internalizing and externalizing behaviors) would likely elevate youth risk of peer victimization. Hanish and colleagues also were interested in exploring whether regulatory abilities, aggression, and withdrawal mediated the effects of negative emotionality on peer victimization. To measure anger and anxiety, the researchers borrowed subscales, anger/frustration and anxious/fearful from the Children's Behavior Questionnaire (CBQ) and the Child Behavior Scale (CBS). Anger and anxiety/sadness, also were measured through research observations of the children's behavior during playtime. To measure regulatory abilities, Hanish et al. used three subscales of the CBQ – Attentional focusing, attentional shifting, and inhibitory control. The aggressive with peers and asocial with peers subscales from the CBS were used to measure aggressive and withdrawn behaviors.

The results of Hanish and colleagues' analysis found that reported and observed negative emotionality such as anger and anxiety at Time 1 predicted peer victimization at Time 2. Externalizing behaviors, such as anger were especially linked to children's risk of victimization. The researchers also found that for girls, overall, regulation mediated the effects of reported and

observed anger on risk of peer victimization at Time 2. However, for boys, regulation, withdrawal, and aggression did not predict peer victimization at Time 2. Hanish et al.'s results suggest moderate support for externalization of emotions, such as anger, which manifest in behaviors that inhibit regulatory control, thus elevating youth risk of bullying victimization.

Results from an analysis of longitudinal data collected from a birth cohort of children also support Hanish et al.'s findings. Specifically, Arseneault, Walsh, Trzesniewski, Newcombe, Caspi, and Moffitt (2006) examined data collected from mothers and teachers of children between the ages of 5 and 7, concerning behavior problems and school adjustment. Youth were identified as either pure victims or bully/victims based on bullying experiences reported by their mothers and teachers. Bullying victimization was assessed by mothers' knowledge of incidents involving exclusion, name calling, daily physical violence (e.g., smacked across the face, stabbed with pencil, and beaten-up). The researchers also asked mothers' about the physical (e.g., bruise, cut, and burn) and psychological (e.g., bad dreams, tummy ache, and school avoidance) harm resulting from incidents of bullying. Bullying perpetration was measured by collecting information from mothers and teachers' concerning each child's bullying behavior.

Scales from the Child Behavior Checklist (CBC) were used to measure behavioral control or adjustment was measured using information collected from mothers and teachers' about child use of internalizing and externalizing behaviors. Internalizing behaviors was a summed measure of scales, such anxious-depressed, withdrawn, and somatic complaints. Delinquency and aggression scales were summed to create a measure of externalizing behavior. The researchers measured prosocial behavior with ten items from the Revised Rutter Scale for School-Age Children, such as "tries to be fair in games" and "considerate of other people's feelings." The researchers also included measures of school adjustment, such as happiness at school, academic

performance, and reading ability, which was assessed using the Test of Word Reading Efficiency.

Regression analyses revealed that youth who became pure victims of bullying between ages 5 and 7 were more likely to have preexisting internalizing behaviors than youth who did not experience bullying between ages 5 and 7. Girls who were bullied between ages 5 and 7 were more likely to exhibit externalizing behaviors prior to age 5 than boys. Youth became bully/victims between ages 5 and 7 were more likely to have preexisting internalizing and externalizing behaviors, and had fewer prosocial behaviors than youth who became pure victims, as well as those who did not experience bullying victimization between ages 5 and 7. Similarly, analyses found that pure victims engaged in internalizing behaviors at age 7, than youth who were not victims of bullying. Compared to boys who were victims of bullying and children who were not victims of bullying, girls were significantly more likely to engage in externalizing behaviors. Bully/victims were significantly more likely to engage in internalizing behaviors at age seven than pure victims and youth who were not victims of bullying. Children who were bully/victims also were more likely to engage in externalizing behaviors, had fewer prosocial behaviors, and lower academic performance and reading abilities.

Researchers, Powell and Jenson (2010) explored the role of individual, peer, family, and school factors in structuring bullying victimization among Hispanic adolescent girls. Among the individual factors, Powell and Jenson included self-esteem, emotion regulation, and social information processing, in order to test the assumption that when effectively operating, these factors protect youth from bullying victimization (e.g., name calling, exclusionary practices, false rumors, physical aggression, stealing, and physical intimidation or threats). The researchers measured emotion regulation and social information processing using variables reflecting

reactive relational and overt aggression from the Little Aggression Inventory (LAI). The two six-item subscales used to measure reactive relational and overt aggression captured emotional, verbal, and physical responses when angered by others. The results of Powell and Jenson's analysis provided support for the relationship between bullying victimization and reactive relational aggression, but not overt aggression. Essentially, girls who engaged in reactive relational aggression were at an increased risk of bullying victimization, while girls who reported using overt aggression had a lower risk of being victimized by their peers.

In general, girls in the sample were more likely to report engaging in overt aggression than relational aggression. While previous research (Crick and Grotpeter, 1995 cited in Powell and Jenson, 2010) suggests that girls are more likely to report engaging in relational aggression versus overt aggression, previous studies (Storch, Nock, Masia-Warner, and Batlas, 2003) have primarily used samples of middle-class, white youth. Based on these differences, Powell and Jenson suggest that low-income, Hispanic female adolescents may be more likely to engage in overt aggression, or middle-class, White female adolescents could underreport their use of overt aggression.

In a more recent analysis, Holt, Turner, and Exum (2014) assessed the effects of individual and neighborhood-level factors on risk of bullying victimization among middle and high-school students. Among the individual-level factors, Holt and colleagues were particularly interested in the relationship between low self-control and bullying victimization. Low self-control was measured using a six-item scale, which gaged students' agreement with statements such as: "I enjoy taking risks," and "planning takes the fun out of things." Bullying victimization was assessed by inquiring about whether youth experienced physical (e.g., physical violence in school), verbal (e.g., verbal threats, teasing, and name calling in school), and cyberbullying (e.g.,

harassing emails from school students) victimization. Neighborhood disorder was measured with youth perceptions of the presence of crime, unemployment, unsupervised youth, and dilapidated buildings. The researchers also included demographic measures (e.g., age, sex, and race) and an indicator of academic performance (p. 350).

The researchers modeled outcomes across four models. In their first model, Holt et al. found that after controlling for demographic measures, youth with poor grades and self-control were more likely to report experiencing each type (e.g., physical, verbal, and cyber) of bullying victimization. In Model 2, youth residing in disorderly neighborhood were also more likely to report experiencing all forms of bullying victimization. In their third model, Holt and Colleagues found that the relationship between low self-control and bullying victimization was partially mediated by neighborhood disorder. In Model 4, however, the researchers found that once all forms of bullying victimization were included in the model, low self-control and academic performance were longer significant. The only explanatory variable that remained significant was neighborhood disorder. Holt and colleagues explained that once youth have experienced one type of bullying victimization; their likelihood of experiencing other types of bullying victimization becomes elevated. In essence, poly victimization mediated the relationship between low self-control and bullying victimization, thereby suggesting that an indirect relationship exists between low self-control and different types of bullying victimization. This indirect relationship, as noted by Holt et al., is driven by a youth's exposure to motivated offenders (p. 353).

Using data collected from middle school students in Texas, Jensen-Campbell, Knack, Waldrip and Ramirez (2009) examined the link between self-control and bullying victimization. The researchers were particularly interested in determining whether a relationship existed

between self-control, personality, internalization (e.g., depression, anxiety, somatization, and withdrawal) of problems and externalization (e.g., aggression, atypicality, conduct problems, and hyperactivity) and bullying victimization (e.g., physical and relational) of problems among youth. Self-control was assessed through traditional measures of self-control, such as the Wisconsin Card Sorting Task (WCST), Stroop, Go/No-Go, and the Behavior Assessment System for Children (BASC). The researchers borrowed two methods from the WCST: failure to maintain set and learning to learn. Failure to maintain set assesses a child's ability to sort cards following the same principle, despite shifts in stimuli or conditions. Ultimately, it focuses on the losses or cards that are not correctly sorted, and the child's ability to complete the task. Learning to learn simply assesses the child's ability to efficiently learn how to complete a new task. The researchers used two Stroop measures in their study, which were the number of correct incongruent responses and the reaction time for completing incongruent responses (p. 110). From the Go/No-Go task, the researchers assessed the variability in each child's reaction time for congruent (i.e., Go) responses to measure self-control. The BASC was used to assess parents' perceptions of their child's level of poor self-control, such as attention-focus problems, and the degree to which he or she internalizes and/or externalizes their problems.

From the data collected, Jensen-Campbell et al. found a relationship between youth-involved assessments of self-control and parents' perceptions of self-control. Generally, youth scored poorly on the various self-control tasks, also were more likely to receive poor parental assessment of attention-focus abilities. Youth who lacked self-control also were more likely to internalize and externalize their problems and were also more likely to report experiencing both physical and relational victimization. The researchers also found that externalization of problems mediated the effects of self-control on bullying victimization. Youth who had low self-control

were more likely to display aggression, hyperactivity, and conduct problems, thereby increasing their risk of physical and relational victimization from peers. Jensen et al. also found that self-control moderated the relationship between internalizing problems and relational victimization. Youth who had poor self-control, and engaged in internalization of problems, such as depression, anxiety, and withdrawal were more likely to report experiencing relational victimization. Therefore, youth with higher levels of self-control are better able to control or mask their internalization of problems, thereby making them less susceptible to relational victimization.

In a recent analysis of cross-sectional data obtained from middle school youth, Kulig, Pratt, Cullen, Chouhy and Unnever (2017) explored the relationship between low self-control, risky lifestyles, physical vulnerability and bullying victimization. Kulig and colleagues measured bullying victimization using four (4) types – Overall, social, verbal and physical. One of the key predictors, low self-control, was a scale composed of 23-items that was similar to Grasmick et al.'s (1993) original low self-control scale. Risky lifestyles was captured using three variables – Aggressive attitudes, delinquent involvement and substance use. Each measure consisted of more than one item that attempted to gage an average of the respondent's endorsement of aggressive behavior, participation in delinquent activities and frequency of use of substances such as illegal drugs (e.g., crack and ecstasy) and alcohol. Although not intended to measure the guardianship component of LRAT, the researchers also incorporated parental attachment and school attachment as controls. Results of their analyses indicated that after accounting for other variables, youth who engaged in risky lifestyles were not at an increased risk of bullying victimization. Even with the inclusion of low self-control, risky lifestyles did not seem to mediate the relationship between low self-control and bullying victimization. In other words, low self-control maintained a direct relationship with bullying victimization. And, youth with strong

parental attachment reported having a lower risk of experiencing overall, social and physical bullying victimization.

Similar results were found in studies by Cho and Wooldredge (2016) and Cho (2019), which used five waves of longitudinal data from youth (4th through 8th grade) who participated in the Korean Youth Panel Survey to disentangle the temporal relationship between risky lifestyles, low self-control and bullying victimization. Specifically, Cho and Wooldredge (2016) examined whether changes in bullying victimization correspond with changes in lifestyles and self-control over time. The researchers used the sum of five-items to create the outcome, bullying victimization. To measure lifestyles, Cho and Wooldredge included the latent constructs, delinquent peer associations and parental attachment, as well as a variable for juvenile offending or delinquency. Low self-control, also a latent construct, was created using 21-items that were indicative of behaviors considered to be impulsive and risk-seeking. After using analyses that employed latent growth modeling, Cho and Wooldredge found support for the LRAT construct, guardianship, in that eighth-grade youth who reported higher levels of parental attachment were less likely to experience bullying victimization. Results of their analyses also determined that changes in bullying victimization were synonymous with youth participation in risky lifestyles, such as juvenile offending/delinquency. The researchers also found that lifestyles did not fully mediate the effects of low self-control on bullying victimization. Even after controlling for lifestyles, the relationship between low self-control and bullying victimization remained significant. This relationship, however, was rendered insignificant when assessing rate of change in bullying victimization over time.

Like Cho and Wooldredge, Cho (2019) explored how changes in low self-control and risky lifestyles shape outcomes of bullying victimization. More specifically, Cho examined the

(a) reciprocal and unidirectional effects between risk lifestyles measures, deviant peer associations and involvement in delinquency and (b) the indirect and direct effects of low self-control on bullying victimization. Using similar predictors as Cho and Wooldredge, Cho found a positive correlation between delinquent peer associations and involvement in delinquent behavior over time. The analyses also confirmed results of previous studies (see Kulig et al., 2017; Cho and Wooldredge, 2016; Schreck, 1999; Schreck et al., 2006, 2002) in that the effect of low self-control on bullying victimization is partially mediated by risky lifestyles. Thus, even after controlling for risky lifestyles, youth with low levels of self-control were more at risk for bullying victimization.

Some researchers, however, have failed to find a relationship between self-control and bullying victimization among school youth. For example, using data from a sample of middle school students, Unnever and Cornell (2003) examined the effects of low self-control and ADHD on youth risk of bullying victimization and bullying behavior. In their analysis, their measure of self-control was derived from 22 school survey items; based on Grasmick et al.'s (1993) self-control scale. ADHD was measured with a single item, which asked students if they had ever taken medication for hyperactivity. Results from Unnever and Cornell's analysis revealed a significant relationship between self-control and ADHD. Middle school students who reported taking medication for hyperactivity, were also more likely to have lower self-control. The results also indicated a direct relationship between ADHD and risk of bullying victimization. Youth who reported taking medication for hyperactivity were also more likely to report being bullied. The researchers, however, did not find a significant relationship between self-control and being bullied. Instead, they found that the more self-control that middle school students have, the less likely they are to bully their peers.

Arguably, Unnever and Cornell did not find a relationship between self-control and bullying victimization because research suggests that youth who are most at risk for being bullied by their peers have ADHD and engage in the externalization of problems (Humphrey, Storch, Geffken, 2007). Further, researchers, such as Jensen et al. argue that poor self-control is evidenced by youth engagement in externalization of problems. Specifically, researchers, such as Krueger, Caspi, Moffitt, White, and Stouthamer-Loeber (1996) have found that dimensions of low self-control, such as inability to delay gratification are risk factors for youth engaging in externalization of problems. Because Unnever and Cornell did not measure externalizing problems among youth in their study, their analysis may have failed to capture the link between self-control and bullying victimization.

Nevertheless, of the bulk of these studies, many results suggest that low self-control influences youth risk of bullying victimization by way of behavioral responses. For example, some researchers have linked youth inability to self-regulate with poor impulse and emotional control (Barkley, 1998), while others have linked unwillingness to delay gratification with externalization of behavioral problems (Krueger, Caspi, Moffitt, White, and Stouthamer-Loeber, 1996 cited in Jensen-Campbell, Knack, Waldrip, and Ramirez, 2009, p. 107). This is further supported by more recent research (see Barker, Boivin, Brendgen, Fontaine, Arseneault, Vitaro, Bissonnette, and Tremblay, 2008; Van Lier, Vitaro, Barker, Brendgen, Tremblay, and Boivin, 2012), which found that externalization of problems, such as aggression, atypicality, conduct problems, and hyperactivity, act as a vehicle for which, low self-control increases youth risk of physical and relational peer victimization. So, youth with lower levels of peer victimization tend to externalize (e.g., aggression) their problems less (Goldbaum, Craig, Pepler, and Connolly, 2003). Put simply, youth with low self-control are likely to engage in the externalization of

problems, which annoy peers, thereby increasing their risk of bullying victimization (Jensen-Campbell et al., 2009).

However, few researchers have yet to explore the indirect effects of self-control on risk of bullying victimization among youth, as mediated by lifestyle variables (e.g., participation in school sports, community activities, and other school activities). This dissertation explores the assumption that while low self-control will affect youth participation in antisocial lifestyles and behaviors, low self-control also will affect participation in prosocial activities. Youth who report lower self-control are hypothesized to dedicate less time to engaging in prosocial activities, which allows for more time spent in antisocial activities. Participation in antisocial activities increases youth exposure to victimization, and association with deviant peers puts youth in close proximity to potential motivated offenders, such as bullies.

PRESENT STUDY

The current study uses the construct, low self-control, and core components of LRAT (exposure to risky situations, proximity to motivated offenders, lack of capable guardianship) and TC (target vulnerability, target antagonism, and target gratifiability) perspectives to examine youth risk of different types of verbal bullying (e.g., teased for physical appearance, teased for speech, etc.) victimization. While previous research findings provide support for LRAT, TC, and low self-control in explaining victimization among youth, together, they have not been used to explain and predict youth risk of bullying victimization. As such, this study addresses the need or gap in the current literature by integrating LRAT, TC, and low self-control into an explanatory model of bullying victimization among youth.

Furthermore, criminologists and victimologists alike have surprisingly overlooked the importance of TC in predicting bullying behavior among youth. This oversight likely stems from the field's seemingly lack of empirical tests of TC. Though cause for concern, such oversights have a created a need for additional empirical analysis, of which, this dissertation aims to fulfill. Specifically, the current analysis examines the empirical utility of TC in explaining youth vulnerability to victimization, with specific emphasis on different forms of bullying victimization.

This study also highlights the importance of self-control in predicting youth risk of being bullied, by incorporating the construct, low self-control, into the TC framework. Specifically, TC dimensions, target antagonism and target vulnerability, are operationalized using low self-control. Though previous research has examined the relationship between low self-control and bullying victimization, none have explicitly explored this relationship using the TC model. Additionally, though previous research has tested TC using measures of low self-control (e.g., impulsivity) to predict youth victimization, these studies did not attempt to predict bullying victimization. Thus, the current analysis examines the relationship between low self-control and youth risk of being bullied, while testing the utility of TC in predicting bullying victimization.

Of the empirical studies, which have used components of LRAT, such as exposure, proximity, and guardianship, to examine risk of bullying victimization, none have tested the relationship between measures of exposure, proximity, guardianship, and multiple measures of bullying victimization. For example, Peguero's (2008) analysis included one dichotomous measure for bullying victimization that was based on six forms of victimization, which encompassed property, personal, and verbal acts. As operationalized, arguably, Peguero failed to capture the essence of bullying victimization. Some youth may not perceive theft, or robbery as

bullying incidents. Like Peguero (2008), Popp (2012) relied on dichotomous measures to test the relationship between LRAT and bullying victimization. Popp, however, included two general measures – physical and social bullying victimization – to better distinguish between possible types of bullying experienced by adolescents. Though Popp's analysis preliminarily explored the notion that not all types of bullying are the same (i.e., physical and social), her measures were unable to specify between the different forms of physical and social victimization, which comprised each measure. For example, the dichotomous measure for social bullying victimization included adolescent youth experiencing any of the following: name calling, rumor spreading, and social exclusion. Because these different forms of social bullying were included in one composite measure, Popp was unable to explore the possibility that each type of social bullying experienced by youth has its own unique opportunity structure.

Thus, the present study addresses some of the limitations and builds on the strengths of the previous bullying victimization research. Namely, the current analysis uses several measures of bullying victimization; in an effort to consider the possibility of differences across opportunity structures. Consistent with previous research, the current analysis incorporates individual characteristics, such as low self-control, which arguably affect youth risk of being bullied. This study also extends previous research by outlining an explicit test of an integrated theoretical model to predict risk of bullying victimization among youth, using different types of teasing. An integrated theoretical model is useful in examining risk for different forms of bullying as a wealth of research suggests factors that structure opportunity for victimization, are not necessarily the same across types of offenses. This is consistent with both TC and LRAT - when married, suggest that victimization risk is determined by individual characteristics, lifestyle choices, and routine activities (Hindelang et al., 1978). Therefore, it is reasonable to assume that

youth risk of one form of bullying versus another (e.g., teased for religion versus teased for disability) orientation, social class, gender, hometown or home country, disability, look/appearance, opinions, speech, and name) is determined by a unique arrangement of individual characteristics (e.g., low self-control, anxiety, emotional vulnerability, and introversion) and lifestyle-routine activities (e.g., participation in school-related extracurricular activities, participation in community activities, substance use, engaging in deviant behavior, closes friends' substance use, association with delinquent peers, rule fairness and perception of school disorder). And, by using an integrated approach, this dissertation is able to not only test this assumption, but to identify potential risk profiles determined by unique combinations of factors that are associated with different types of bullying.

CHAPTER 3. RESEARCH METHODOLOGY

This chapter outlines the research methodology used to test the proposed integrated theoretical model's ability to predict risk of bullying victimization among youth. The purpose of this chapter is to describe the variables used to measure the theoretical concepts that best predict risk of bully victimization among youth. Recall that the previous section considers prior empirical analysis of the role of socio-demographic characteristics, lifestyle and behaviors in explaining risk of victimization among youth. Previous studies suggest that measures of lifestyle and behaviors often exhibit a strong relationship with victimization experiences of youth (Peguero, 2008; Jensen and Brownfield, 1986; Lauritsen et al., 1992; Campbell Augustine et al., 2002; Burrow and Apel, 2008; Garofalo et al., 1987; Popp and Peguero, 2011; Peguero, Popp, and Koo, 2011; Popp, 2012; Wilcox, Skubak Tillyer, and Fisher, 2009; Schreck et al., 2006; Schreck et al., 2003; Skubak Tillyer, Tillyer, Ventura Miller, and Pangrac, 2011; Cho, Wooldredge, and Park, 2015). Lifestyle choices and behaviors of youth often serve as stronger predictors of victimization than sociodemographic factors (see Popp, 2008; Popp and Peguero, 2011; Peguero et al., 2011; Campbell Augustine et al., 2002). There is, however, one factor that is the exception to this – low self-control. Studies suggest that low self-control influences an individual's lifestyle choices and behaviors, which in turn, create opportunities for victimization to occur (Schreck, 1999; Schreck et al., 2002; Schreck et al., 2004; Schreck et al., 2006; Krueger et al., 1996; Unnever and Cornell, 2003; Pratt et al., 2013; Holt et al., 2014).

Though support exists for the effects of both sociodemographic characteristics, and lifestyle choices and behaviors on youth victimization, few studies have integrated and explicitly compared the importance of target congruence (TC) and lifestyle-routine activity theory (LRAT)

theoretical perspectives for understanding bullying victimization against youth, including specific types of verbal teasing.

To address this gap in the literature, this dissertation examines the nature of the relationship between these two popular victimization theories in predicting youth risk of experiencing bullying victimization – specifically, verbal teasing – by using statistical models to address the following research questions:

(1) Do concepts from TC help explain teasing victimization? Specifically,
   a. Is target vulnerability associated with a significantly increased risk of experiencing teasing?
   b. Is target antagonism associated with a significantly increased risk of experiencing teasing?

(2) Do concepts from TC help explain specific types of verbal teasing, including being teased about as religion, race, sexual orientation, social class, gender, one's hometown or home country, a physical disability, appearance, political opinions, speech problem or accent and name? Specifically,
   a. Is target vulnerability associated with a significantly increased risk of specific types of verbal teasing?
   b. Is target antagonism associated with a significantly increased risk of specific types of verbal teasing?

(3) Do concepts from LRAT help explain overall teasing victimization?

  a. Is exposure to motivated offenders associated with a significantly increased risk of experiencing teasing?
  b. Is guardianship associated with a significantly decreased risk of experiencing teasing?

(4) Do concepts from LRAT help explain specific types of verbal teasing? Specifically,

  a. Is exposure to motivated offenders associated with an increased risk of experiencing specific types of verbal teasing?
  b. Is guardianship associated with a significantly decreased risk of experiencing specific types of verbal teasing?

This chapter begins with a description of the research sample, which will be used to examine the research questions. The next section outlines the process by which variables were selected for the current the analysis. This is followed by a discussion of the measurement of dependent and independent variables drawn from the survey instrument, which inquired about the in-school and out-of-school experiences of youth in Kentucky public schools. The last section of this chapter outlines the analytic strategy used to test the proposed hypotheses.

DATA AND SAMPLE

Rural Substance Abuse and Violence Project (RSVP)

The current analysis uses middle-school student survey data from the Rural Substance Abuse and Violence Project (RSVP), a prospective longitudinal survey funded by the National Institute of Drug Abuse (DA-11317). Survey data were collected from students and teachers throughout Kentucky between the years of 2001 and 2004. The main focus of the RSVP was to better understand individual and contextual factors that contribute to student delinquency and victimization experience. For the present study, only the first of four waves of the student component of the RSVP was used. The student data consist of annual survey responses from a panel of students who were enrolled in seventh grade during the 2000-2001 academic year. A multi-stage procedure beginning with a stratified sampling of 30 of Kentucky's 120 counties was used to select a panel of student participants from rural and urban areas. Within the 30 selected counties, principals from all public schools containing seventh graders were contacted for inclusion in the study, with 65 of 74 schools agreeing to participate. From the 65 public schools that agreed to participate, 9,488 seventh-grade students were targeted for participation. Active parental consent was obtained for 4,102 students or 43 percent of the students eligible for participation. Of the participating students, completed surveys were received from 3,692 students in Wave 1.

The response rate for the RSVP was similar to other studies that have used active parental consent, as these studies reported rates ranging between 35 to 60 percent (see Ellickson and Hawes, 1989 cited in Ousey, Wilcox and Brummel, 2008; Esbensen et al., 1996 cited in Wilcox et al., 2009). Demographic characteristics, such as racial composition of the sampled students,

were consistent with Kentucky Department of Education (KDE) enrollment data from 65 of the sampled schools. For example, 9.6 percent of the students sampled in Wave 1 of the RSVP data were non-White, in comparison to 10.2 percent of the students (not just seventh graders) from KDE enrollment data. Alternatively, the 45.5 percent of the Wave 1 was composed of males, compared to 51.9 percent of KDE data sample.

Sample Characteristics

The RSVP sample is composed of seventh-grade students first measured in 2001. Table 3 – 1 summarizes these characteristics.

Of the seventh-grade students sampled, a little more than half were female (52.2 percent) and majority were white (89.2 percent). Most students reported that they had not moved in the last year (78.2 percent) or changed schools during the 2001 school year (94.3 percent).

Table 3 – 1: Sample Characteristics (N=3,692).

Sample Characteristics	N	%
Gender		
Male	1757	47.8
Female	1921	52.2
Race		
White	3278	89.2
African-American	209	5.7
Other	162	5.1
Residence changes in the past year		
No	2866	78.2
Yes	799	21.8
School changes during present school year		
No	3470	94.3
Yes	208	5.7

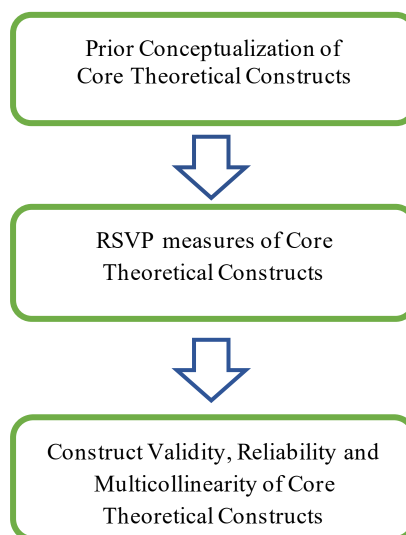
Note: Due to missing data, N for each characteristic does not sum to total sample size of 3,692. Missing responses for each characteristics were less than 10 percent of sample.

VARIABLES

Selection Process

The current study observes the original, as well as previously tested measures of the core constructs of TC and LRAT. More specifically, the inclusion of variables in this analysis (see Figure 1) was determined first by examining the literature to assess how these core constructs have been operationalized in prior studies. The second step was identifying measures in the RSVP data set that were consistent with prior conceptualizations of the core theoretical constructs. Lastly, construct validity, reliability and multicollinarity were checked using IBM's SPSS 26.0. The psychometric properties of scales were assessed, where appropriate, using Cronbach's alpha *(r)* and Exploratory Factor Analysis and Principal Components Analysis with Varimax Rotations. A table of bivariate correlations among independent measures was used to validate statistical significance or magnitude and direction of covariation between items, as well to assess multicollinearity.

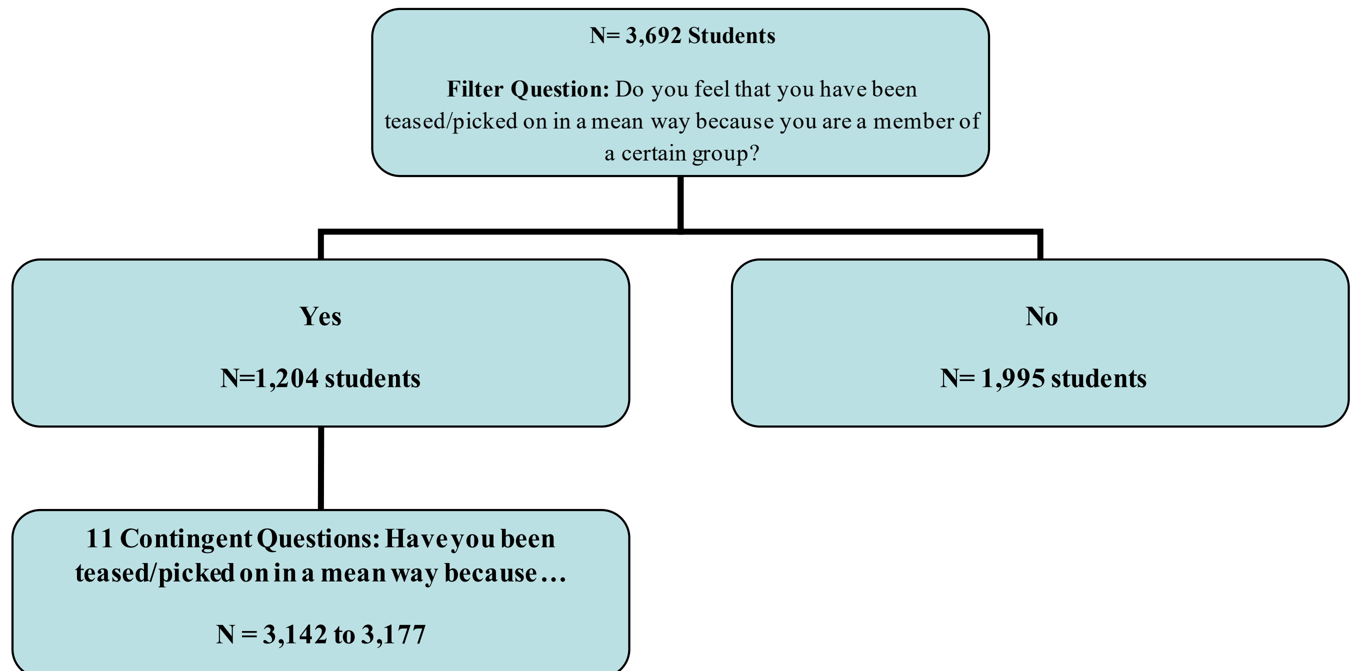
Figure 3 – 1: Selection of Variables.



Missing Data

The sample (n) for the current study is 3,692 seventh grade students. Of the sample, 3,199 students responded "yes" or "no" to the following filter survey question: "Do you feel that you have been teased/picked on in a mean way because you are a member of a certain group?" More specifically, 62 percent (n=1,995) of the students responded, "no," while 38 percent (n=1,204) responded, "yes" (see Figure 3 – 2). Students who responded "yes" to the gate question, were instructed to answer a series of eleven follow-up questions regarding specific types of bullying victimization, such as "Have you been teased/picked on in a mean way because of your gender (being male or female)?" For the follow-up questions, sample sizes ranged from 3,142 to 3,177 students, resulting in 2 percent or less of missing data per question. Sample sizes for each outcome measure are reported in Table 3 – 2, the percentage of missing data for each item is reported in Appendix A.

Figure 3 – 2: Sample Sizes Associated with the Skip Pattern for the Dependent Variables.



Dependent Variables

Bullying Victimization

The present analysis uses 12 dichotomous (0=no, 1=yes) measures and one summated count measure (see Table 3 – 2) of bullying victimization.[1] The survey used a single-item dichotomous measure that asked students if they had "been teased or picked on in a mean way because [they] are a member of a certain group." Those responding affirmatively, were then asked eleven follow-up dichotomous questions about specific types of bullying victimization, including verbal teasing about one's religion, race, sexual orientation, social class, gender, hometown or home country, disability, appearance, political opinions, speech problem or accent, and name. While not exhaustive of all possible types of bullying victimization, the questions do tap into a wide array of negative experiences.

The second dependent measure of bullying victimization was created by summing responses across the eleven individual items. The resulting index thus reflects a measure of teasing experiences and captures a full array of all measured experiences. Since the measure is an index, and not a scale, reliability estimates are unnecessary. The index had a mean of 1.10 (SD= 1.83) and was right skewed (Kurtosis value=2.70)

[1] The teasing survey items, which fell towards the end of the RSVP survey, did not instruct youth to limit responses to a specific period of time. However, other RSVP survey questions that asked youth about their experience with other types of peer victimization like having their money stolen or receipt of unwanted sexual touching, were limited to the current school year and came before the teasing questions in the survey. Thus, it is not unreasonable to assume that youth who responded to the teasing questions, limited their answers to the current school year.

Table 3 – 2: Descriptive Statistics for Dependent Variables.

Variable	Metric	Mean	SD	Min	Max	N
Teased (Filter Question)	(1=yes, 0=no)	.38	.49	0	1	3199
Teased-Religion	(1=yes, 0=no)	.07	.25	0	1	3151
Teased-Race	(1=yes, 0=no)	.04	.20	0	1	3146
Teased-Sexual Orientation	(1=yes, 0=no)	.01	.11	0	1	3142
Teased-Social Class	(1=yes, 0=no)	.12	.33	0	1	3151
Teased-Gender	(1=yes, 0=no)	.09	.29	0	1	3146
Teased-Hometown/Country	(1=yes, 0=no)	.07	.26	0	1	3149
Teased-Disability	(1=yes, 0=no)	.03	.17	0	1	3143
Teased-Appearance	(1=yes, 0=no)	.29	.45	0	1	3177
Teased-Opinions	(1=yes, 0=no)	.22	.41	0	1	3161
Teased for Speech	(1=yes, 0=no)	.06	.24	0	1	3145
Teased for Name	(1=yes, 0=no)	.15	.49	0	1	3162
Teasing Victimization Index	(# of types of teasing)	1.10	1.83	0	11	3115

Independent Variables

The predictor variables used in the current study are measures of key constructs of two established theoretical explanations of victimization – Target congruence (TC) and lifestyle-routine activity (LRAT). More specifically, the present analysis tests four constructs– (1) target vulnerability, (2) target antagonism, (3) exposure to motivated offenders and (4) guardianship. Target vulnerability and target antagonism are key constructs or dimensions of TC, while exposure to motivated offenders and guardianship are main constructs of LRAT. A discussion of the predictor variables used to test these key constructs is provided below. Descriptive statistics for these variables are summarized in Table 3 – 3.

Measures of Target Congruence

Target Vulnerability. The first dimension of TC, target vulnerability, asserts that some individual characteristics, such as emotional and psychological problems, make it difficult for youth to prevent victimization (Finkelhor and Asdigian, 1996). Research (see Goldbaum et al., 2003; Hodges and Perry, 1999; Mulder and van Aken, 2014; Alm, 2007; Lund, Ertesvag, and Roland, 2010) suggests that youth who identify as generally or socially anxious, or view themselves as shy, are at risk of having difficulty in establishing relationships with or being viewed as socially incompetent by their peers. In turn, these youth are more at risk or being bullied by their peers.

Anxiousness was measured by an 11-item summated scale designed to assess the physiological properties of anxiety. Measurement of anxiousness as a summated scale is consistent with social science research, which commonly uses summated scales to measure personality constructs (Spector, 1992). Using a four-item Likert response scale (1=never true to

4=always true), students were asked to assess the applicability of a series of statements, such as "I have pains in my chest" and "I get dizzy or faint feelings" (Cronbach's alpha = .90, see Appendix A). The average level of anxiety was 17.18 (SD 6.58). This suggests that overall, most students reported experiencing symptoms associated with anxiety, but not frequently (See Table 3 – 3 and Appendix A).

Emotional vulnerability was constructed using a six-item summated scale that measured the degree of concern each student has about others' opinions of them. With a four-item Likert response scale (1=never true to 4=always true), students were asked to assess their agreement with statements such as "I worry about other people laughing at me" and "I try to do things other people will like." On average, students reported a score of 12.37 (SD 4.75), and the scale had a Cronbach's alpha of .84 (see Appendix A). This suggests that while most students have experienced feeling of emotional vulnerability, these feelings are not experienced daily.

Introversion was measured using a four-item summated scale which reflected the youth's level of shyness. Using a four-item Likert response scale (1=never true to 4=always true), students' agreement with statements such as "I try not to get called on in class" and "I feel shy" was assessed. The average score for introversion was 7.46 (SD 3.09) and the scale had a Cronbach's alpha of .75. Like anxiousness and emotional vulnerability, most students indicated that they sometimes feel shy or do not like situations where they have to speak in front of their peers (See Table 3 – 3 and Appendix A).

The scales – anxiousness, emotional vulnerability and introversion – were used in exploratory factor analysis to determine if they converge as a latent measure of target vulnerability. Specifically, principal components analysis with varimax rotation was used.

Results indicated that anxiousness, emotional vulnerability and introversion loaded on a single factor. Factor loadings ranged from .83 to .86 and are displayed in Table 3 – 5.

Target antagonism. Target antagonism draws attention to characteristics or attributes of youth, such as their behavior, that might evoke negative consequences from potential offenders (Finkelhor and Asdigian, 1996). Research, for example, suggests that deficiencies in self-regulation and control of behavior increase the likelihood that youth will be bullied by their peers.

Low self-control. Following the work of Gottfredson and Hirschi (1990), a measure of low self-control was created by taking the average of student responses to a 14-item scale that taps into the ability of each adolescent to control and regulate their behavior. Using a four-item Likert-type scale (1=never true to 4=always true), students were asked to assess the applicability of a series of statements, such as "When I am angry, I lose control over my actions" and "Little things or distractions/interruptions throw me off." The average for low self-control was 2.06 (SD =.58; see Table 3 – 3), which suggests that the sampled students reported high-average levels of self-control. Reliability analysis of the internal structure of the 14 items revealed a Cronbach's alpha of .85 (see Appendix A). Exploratory Factor Analysis and Principal Components Analysis with Varimax Rotations resulted in all survey items loading on the same factor (see Table 3 – 5).

Measures of Lifestyle-Routine Activity

Exposure to Motivated Offenders. The LRAT perspective suggests that risk of victimization increases for individuals if they are exposed to or are in close proximity to motivated offenders. Exposure is the contact in space and time that a potential target has with a motivated offender, while proximity is the physical distance that separates the potential target

and motivated offender. Ultimately, potential targets that are in close proximity to motivated offenders are at risk of victimization because they have a higher likelihood of making contact with such offenders (Cohen et al., 1981).

To capture youth exposure to motivated offenders, several measures were used that assessed the sociability of the student. For example, students were asked about their individual general delinquency, as well as the peers' general delinquency. Similarly, students reported if they were involved in school sports or other school activities, and if they were involved in community activities. Additionally, students answered questions about access to illicit opportunities and perception of disorder at school. These measures are discussed below, however, it is important to note that a measure of proximity to motivated offenders was not included in the RSVP sample and thus, was not included in the study.

Individual General Delinquency. Participation in delinquent activities and association with delinquent peers can expose youth to peer victimization (Jensen and Brownfield, 1986; Lauritsen et al., 1992; Augustine et al., 2002; Schreck et al., 2004; Burrow and Apel, 2008), and put them in close proximity to bullies. Delinquent acts during the present school year was captured by taking the average of students' responses to an index of 33 survey items that assessed frequency of involvement in violent and non-violent misconduct occurring at or away from school. Specifically, students used a five-point Likert response scale (1=never to 5=daily, almost daily) to answer questions about engaging in behaviors such as forcing someone to give up their money or property, physically attacking someone, using marijuana, skipping school, stealing someone's money or property, and having been arrested (see Appendix A). A mean of 1.16 (SD=.39, see Table 3 – 3) suggests that on average, youth responded "never" to most

questions regarding participation in delinquent acts during the school year. Thus, majority of the students reported no involvement in delinquent conduct during the school year.

Reliability analysis of the internal structure of the individual delinquency survey items, produced a scale with a Cronbach's alpha of .95 (see Appendix A). Factor analysis of the individual delinquency items produced five Eigenvalues that explained 65 percent of the total variance. However, largest distance between first and second Eigenvalues values is 12.31, with 32 values ranging from .11 to 14.59, thus suggesting that while sub domains may exist, the results capture a general proclivity towards misconduct.

General Peer Delinquency. Peer participation in misconduct was created from survey items that asked the respondent about their closest friends' participation in specific violent and non-violent delinquency during the current school year such as smoking marijuana, getting drunk, stealing property, physically attacking someone and getting suspended from school (see Appendix A). For each behavior (item), youth listed the number of friends that had engaged in that behavior during the current school year. Each item was transformed into a dichotomous measure (0=no, 1=yes) that captured whether the respondent reported having a friend(s) that engaged in that particular type of misconduct. The items were then summed to create an index (see Appendix A) of peer poly-delinquency. On average, most students reported that they had (mean=2.97, SD=3.89) a close friend(s) who had engaged in nearly three different types of misconduct during the current school year (see Table 3 – 3).

School Sports, Other School Activities and **Community Activities.** Youth participation in prosocial activities, such as sports and clubs can put them at risk for being victimized by their peers (see Peguero, 2008; Peguero, 2009; Burrow and Apel, 2009; Popp and Peguero, 2011;

Popp, 2012). To examine the relationship between youth involvement in extracurricular activities during the school year and risk of being bullied, three items were used: Participation in school and other school activities, and participation in community activities. School sports included youth participation in basketball, tennis, football or cheerleading, while other school activities included band, student government, yearbook or FHA. Community activities was indicative of youth participation in activities outside of school, such as church, youth group, 4H and Boy/Girl Scouts.

Responses ranged from one to five, where 5 equaled daily participation and 1 equaled the no participation. The average involvement of youth in school sports during the school year was 2.72 (SD =1.55), which is equivalent to approximately one to two days per week. Youth involvement in other school activities during the school year was similar, with an average of 2.49 (SD = 1.64) or one day per week. And, participation in community activities averaged around one day per week (2.42, SD = 1.20, see Table 3 – 2).

Perception of School Disorder. School disorder is believed to increase the risk of experiencing victimization at school. Researchers (Schreck et al., 2003; Burrow and Apel, 2008) have proposed that the availability of drugs, guns, and gangs at school expose youth to potential offenders. Student perception of disorder at school was measured by taking the average response to six survey items (see Appendix A). These questions asked students about the accessibility of cigarettes, alcohol, marijuana, cocaine, inhalants, guns, and the presence of gangs in their school. Responses were scored on a four-point Likert response scale from 1=strongly disagree to 4=strongly agree (see Table 3 – 3). The average response to the survey items was 1.92 (SD=.89), which suggests that most students did not think it was easy for someone their age to obtain drugs and guns while at school.

Guardianship

LRAT asserts that direct and indirect actions of individuals, such as peers, or parents or objects like metal detectors and security cameras act as guardians, which reduces the opportunity for victimization (Cohen et al., 1981). In situations where motivated offenders are in close proximity to potential targets, it is assumed that offenders will likely select targets with less guardianship. Targets perceived to have more guardianship are less likely to present opportunity for victimization (Meithe and Meier, 1994). In the present analysis, guardianship was operationalized using five measures: Maternal attachment, paternal attachment, peer attachment, school attachment, and rule clarity and fairness (see Table 3 – 3).

Maternal Attachment and **Paternal Attachment.** Relationships with parental figures have been linked to youth risk of bullying victimization. Studies have found that parental involvement and support are associated with reduced and bullying risk. Youth with little support (Jeong and Lee, 2013) and involvement from parental figures (Haynie, Nansel, Eitel, Crump, Saylor, Yu, and Simons-Morton, 2001), such as fathers (Nikiforou, Georgiou, and Stavrinides, 2013; Flouri and Buchanan, 2002) are at an increased risk of experiencing bullying. Healthy child-parent relationships can protect youth from being bullied (Baldry and Farrington, 2005) because they learn to model healthy relationships and skills which assist them in establishing connections with their peers (Coleman, 2003; Duncan, 2004). Measures of maternal and paternal attachment were included in the theoretical model to test the effects of youth' relationships with their parents on the risk of bullying victimization.

Each scale was composed by averaging 12 survey items (see Appendix A) which tapped into unique parenting components, such as the level of supervision and monitoring and the level

of love and respect in a youth' relationships with their mothers and fathers. Students used a five-point Likert response scale (1=never to 5=always) to address each of the survey items; with higher numbers reflecting more secure levels of attachment. Across the survey items, the average response to questions regarding maternal attachment was 4.03 (SD=.74) and 3.63 (SD=1.07, see Table 3 – 3) to paternal attachment. On average, students indicated high levels of attachment to their mothers and approaching high levels of attachment to their fathers. The Cronbach's alpha for maternal attachment was .88 and .94 for paternal attachment. Factor analysis produced one factor for each parent (see Table 3 – 5).

Peer Attachment. Like attachment to parents, youth' relationship with their peers is relevant in shaping opportunities for bullying victimization. Poor peer relations create opportunities for bullying victimization (Powell and Jenson, 2010; Spriggs, Iannotti, Nansel, and Haynie, 2007; Davidson and Demaray, 2007), as these youth may lack friends or peers willing to act as guardians against victimization. Youth who are perceived by their peers to be socially competent (Schwartz, Dodge, and Cowie, 1993; Ladd and Kochenderfer Ladd, 2002) are less likely to experience social isolation and are more likely to form friendships and attachments to peers. Thus, positive peer attachments can act as a protective factor against risk of experiencing bullying. To measure attachment to peers, an average was taken of student response to six survey items (see Appendix A) that assessed the quality and strength of respondent' relationships with their closest friends. Respondents answered using a four-point Likert scale (1=strongly disagree to 4=strongly agree). The average level of peer attachment of the sampled 7th grade students was 3.56 (SD=.61, see Table 3 – 3), which indicates that most of the students perceive themselves to have strong relationships with their friends. The Cronbach's alpha for peer attachment was .90 (see Appendix A) and factor analysis resulted in one factor (See Table 3 – 5).

School Attachment. Research has suggested a positive association between school alienation and risk of victimization at school. Youth who are alienated or less attached to their school are not likely to reach out to school staff (Schreck et al., 2003) who might be able provide guardianship and support to youth who are at risk of being bullied by their peers. To measure school attachment, an average was computed across student responses to six survey items (see Appendix A), which assessed students' relationships with teachers, attitudes toward school, and the importance of education. Students responded to the survey items using a four-point Likert scale (1=strongly disagree to 4=strongly agree), where higher numbers reflected strong agreement and lower numbers, disagreement. The sample's average level of school attachment was 3.23 (SD = 0.57; see Table 3), which suggests that majority of the sample reported a more favorable perception of school and education. Reliability analysis produced a Cronbach's alpha of .65 (Appendix A) and when using exploratory factor analysis, all items loaded on one factor (see Table 3 – 5).

Rule Fairness. Similarly, studies suggest that youth who perceive school rules as unfair are less inclined to trust teachers, school officials and staff, thereby reducing their level of guardianship from peer victimization (Schreck et al., 2003; Burrow and Apel, 2008; Popp, 2012). For the present analysis, rule clarity and fairness was measured by taking the average of student responses to five survey items or statements regarding the clarity and fairness of school rules and punishments (Cronbach's alpha = .76, see Appendix A). Students used a four-point Likert response scale (1 = strongly disagree to 4 = strongly agree) to respond to each statement. Higher averages reflected favorable attitudes toward clarity and fairness of school rules, as well as enforcement and knowledge of punishments. The sample's average level of support for and enforcement of school rules was 3.01 (SD =.74), which indicates that majority of the students

perceive school rules to be fair (see Table 3 – 3). Reliability analysis produced a Cronbach's alpha of .89 (Appendix A) and when using exploratory factor analysis, all items loaded on one factor (see Table 3 – 5).

Control Variables

Since this dissertation uses an integrated theoretical framework to predict opportunity for different types of bullying victimization, additional variables are controlled to reduce potential for errors due to model misspecification. Specifically, the statistical models used in this study include controls for how many times the student changed schools in the past year, student gender, student socio-economic status (SES), student race and student degree of school failure Sociodemographic characteristics like gender, SES and race, and other factors like school performance are common measures included in research models seeking to predict types of peer victimization like bullying or teasing. Though not a standard factor included in peer victimization research, changing schools is an event that can impact youth risk of being teased by way of altering their exposure to bullies. Descriptive statistics for the following control variables are summarized in Table 3 – 4.

School Change

School changes during the present school year was measured with a survey item that assessed the number of times (1=0 times to 7=more than 5 times). Since the majority (94 percent, see Table 3 – 1) of the sample indicated that they had not changed schools during the present school year, the item was transformed into a dichotomous measure (0=no to 1=yes) to reflect whether the student had moved (0 = no; 1 = yes) during the present school year (see Table 3 – 4).

Gender

The bullying literature suggests that gender is often a significant predictor of victimization risk. Specifically, boys are typically more at risk for experiencing some physical types of bullying victimization, such as pushing, kicking and slapping, while girls are more at risk of experiencing gossiping, teasing, and rumor spreading (Baldry and Farrington, 1999; Putallaz et al., 2007; Siann et al., 1994; Heinington, Hughes, Cavell, and Thompson, 1998). Since the dependent variables are measures of teasing, a dichotomous indicator (see Table 3 – 4) of students who reported being female (0= no, 1= yes) was included in the analysis. Of the sample, 52 percent (see Table 3 – 1) of the youth were female.

Socioeconomic Status

SES is another characteristic examined by researchers interested in exploring victimization among youth. While some studies which have explored the link between youth or family SES and risk of physical and/or property victimization at school have found no relationship (see Augustine et al., 2002), the bullying literature suggests children of a lower SES tend to report being a victim of bullying more often than children of a higher SES (Curtner-Smith et al., 2006; Unnever and Cornell, 2003; Due et al., 2009; Schumann et al., 2014). For this study, SES was measured by taking the average of two survey items regarding educational attainment of the student's mother and father. Specifically, students reported the educational achievement for each parent on a seven-point ordinal response scale (1=completed grade school or less, 7= graduate or professional school). The result was an average SES of 4.25 (see Table 3 – 4) or finished vocational/trade school.

Race

Empirical evidence of bullying studies suggests that white youth tend to report experiencing bullying victimization more than African American youth. Student race was measured with a survey item that asked students to describe themselves using seven racial or ethnic categories, such as African American, Asian American, Hispanic American and White. Since majority (89 percent, see Table 3 – 1) of the sample identified as White, the measure of race was transformed into a dichotomous variable (0=White to 1=Non-White; see Table 3 – 4). This measure of race is consistent with previous studies (see Wilcox et al., 2009; Swartz, Reyns, Henson and Wilcox, 2011; Tillyer et al., 2018; Kulig et al., 2019) that have used RSVP to test youth victimization.

School Failure

Grade average and whether youth changed academic institutions during the school year were single-item measures that were also included in the analysis. School failure was a single item measure on a five-point Likert scale (1=A to 5=F) that captured youth perception of their academic performance. On average (2.01, SD= .92), the sample of students perceived their academic work to be "B" average (see Table 3 – 4).

Table 3 – 3: Descriptive Statistics for Key Independent Variables

Variable	Metric	Mean	SD	Min	Max	N
Target Congruence						
Measures of Target Vulnerability						
Anxiety	(1=never true, 4=always true)	17.18	6.58	11	44	3472
Emotional vulnerability	(1=never true, 4=always true)	12.37	4.75	6	24	3522
Introversion	(1=never true, 4=always true)	7.46	3.09	4	16	3556
Measures of Target Antagonism						
Low self-control	(1=never, 4=always)	1.90	.68	1	4	3613
Lifestyle-Routine Activity						
Exposure to Motivated Offenders						
Risky Lifestyles						
Individual Delinquency	(1=never, 5=daily)	1.16	.39	1	5	3659
Peer Delinquency		2.97	3.89	0	17	2237
Prosocial Lifestyles						
School Sports	(1=never, 5=everyday)	2.72	1.55	1	5	3645
School Activities	(1=never, 5=everyday)	2.49	1.64	1	5	3636
Community Activities	(1=never, 5=everyday)	2.42	1.20	1	5	3623
School Disorder	(1=strongly disagree,	1.92	.85	1	4	3616
Guardianship						
Maternal Attachment	(1=never, 5=always)	4.04	.74	1	5	3487
Paternal Attachment	(1=never, 5=always)	3.63	1.07	1	5	3492
Peer Attachment	(1=strongly disagree, 4=strongly agree)	3.57	.61	1	4	3581
School Attachment	(1=strongly disagree, 4=strongly agree)	3.23	.57	1	4	3651
Rule Fairness	(1=strongly disagree, 4=strongly agree)	2.83	.79	1	4	3648

Table 3 – 4: Descriptive Statistics for Control Variables

Variable	Metric	Mean	SD	Min	Max	N
Control Variables						
School Change	(0=no, 1=yes)	.06	.23	0	1	3678
Gender (Female)	(0=male, 1=female)	.52	.50	0	1	3678
Socioeconomic Status (SES)	(1=grade school or less, 7=graduate school)	4.25	1.60	1	7	3156
Race (Non-White)	(0=White, 1=Non-White)	.11	.31	0	1	3676
School Failure	(1=A, 5=F)	2.01	.92	1	5	363

Table 3 – 5: Exploratory Factor Analyses of Items in the Study

Survey Items	Factor Loadings 1	2	3	4	5	Construct
Target Vulnerability						
Anxiousness	**.83**					
Emotional vulnerability	**.85**					
Introversion	**.86**					
Target Antagonism						
Trouble controlling temper	**.72**					Low Self-Control
Difficulty remaining seated	**.66**					
When angry, lose control	**.77**					
Difficulty keeping attention	**.73**					
Get frustrated, ready to explode	**.77**					
Distractions throw me off	**.71**					
Nervous or on edge	**.66**					
Can't seem to stop moving	**.70**					
Don't pay attention to what I'm doing	**.62**					
Afraid I will lose control over my feelings	**.71**					
Exposure to Motivated Offenders						
Smoked cigarettes	.08	**.80**	.08	.16	.12	Individual Delinquency
Smoked cigars	.34	**.63**	.23	.16	.09	
Spit tobacco	.34	**.45**	.14	.12	-.00	
Drank alcohol	.09	**.80**	.17	.15	.15	
Gotten drunk	.16	**.77**	.32	.13	.13	
Smoke marijuana	.13	**.67**	.46	.10	.16	
Used inhalants	.33	.30	**.65**	.12	.11	
Used cocaine/crack	.33	.24	**.77**	.14	.08	
Used speed	.28	.29	**.78**	.16	12	
Used crystal meth	.46	.20	**.73**	.18	.11	
Sold drugs	.38	.39	**.52**	.20	.14	

(continued)

Survey Items	Factor Loadings					Construct
	1	**2**	**3**	**4**	**5**	
Skipped school	.30	**.36**	.16	.05	.35	
Money/property by force at school	**.60**	.16	.20	.26	.31	
Money/property by force	**.48**	.10	.20	.26	.37	
Stolen money/property at school	**.48**	.19	.25	.33	.34	
Stolen money/property	**.42**	.22	.19	.33	.40	
Physically attacked someone at school	.16	.12	.06	.19	**.78**	
Physically attacked someone	.09	.15	.09	.17	**.80**	
Said unwelcome sexual remarks at school	.15	.15	.12	**.69**	.33	
Said unwelcome sexual remarks	.10	.22	.13	**.73**	.30	
Touched someone sexually at school	.43	.16	.12	**.71**	.06	
Touched someone sexually	.30	.19	.19	**.76**	.05	
Taken bb gun to school	**.84**	.09	.28	.17	.03	
Taken gun to school	**.82**	.09	.30	.15	.08	
Taken an explosive to school	**.84**	.11	.19	.13	.06	
Taken another weapon to school	**.58**	.30	.15	.19	.17	
Used a gun during a fight	**.80**	.13	.28	.17	.08	
Used another weapon during a fight	**.60**	.33	.13	.24	.21	
Gotten arrested	**.57**	.34	.28	.15	.20	
Driven after drinking	**.55**	.22	.46	.13	.12	
Run away from home	**.42**	.36	.30	.09	.26	
Vandalized public or private property	.35	**.42**	.07	.27	.38	
Easy to get cigarettes at school	**.77**					School Disorder
Easy to get alcohol at school	**.86**					
Easy to get marijuana at school	**.86**					
Easy to get inhalants at school	**.81**					
Easy to get a gun at school	**.72**					

(continued)

Survey Items	**Factor Loadings**					**Construct**
	1	**2**	**3**	**4**	**5**	
Guardianship						
Mother understands me	**.74**	-.36				Maternal Attachment
Mother makes fair rules	**.64**	-.34				
Mother knows where I am	**.67**	.47				
Mother knows who I am with	**.68**	.43				
Mother cares about my school performance	**.54**	.23				
Mother helps me with my homework	**.65**	-.12				
Mother talks to me about my report card	**.66**	.11				
Mother sets a curfew for me	**.55**	.29				
Mother makes me feel wanted	**.74**	-.15				
Share thoughts and feelings with my mother	**.71**	-.35				
Do things with my mother	**.69**	-.24				
Mother is home after school	**.38**	.24				
Father understands me	**.81**					Father Attachment
Father makes fair rule	**.75**					
Father knows where I am	**.82**					
Father knows who I am with	**.82**					
Father cares about my school performance	**.77**					
Father helps me with my homework	**.71**					
Father talks to me about my report card	**.76**					
Fathers sets a curfew for me	**.71**					
Father makes me feel wanted	**.80**					
Share thoughts and feelings with father	**.73**					
Do things with my father	**.79**					
Father is home after school	**.53**					

(continued)

Survey Items	Factor Loadings					Construct
	1	2	3	4	5	
Respect opinions of closest friends	**.76**					Peer Attachment
Best friends would stick by me	**.81**					
Best friends think of me the same	**.82**					
Fit in well with my best friends	**.83**					
Best friends take an interest in my problems	**.83**					
Take interest in the problems of my friends	**.84**					
Most teachers are not interested in me	**.70**					School Attachment
Most of my classes are a waste of time	**.66**					
Would quit school now if I could	**.59**					
Care a lot about what my teachers think of me	.48					
Getting an education is important to me	**.69**					
Look forward to coming to school most mornings	**.70**					
School rules are fair	**.80**					Rule Fairness
Punishment is same for all	**.73**					
All students treated fairly	**.83**					
Teachers are fair	**.78**					
Principals are fair	**.74**					

Extraction Method: Principal Components Analysis; Rotation Method: Varimax; Loadings larger than .50 are in bold.

SUMMARY

The methodological techniques used to address the research questions presented at the end of Chapter 2 of this dissertation were discussed in this chapter. The data, Wave 1 of RSVP, and characteristics of the sampled Kentucky public middle-school youth participants were detailed. The proposed theoretical model, dependent and explanatory variables, as well as control variables were outlined. Measurement of these variables and their descriptive statistic were also described. In Chapter 4, the analytic strategy used to examine the research questions proposed in this chapter will be outlined. Results of the statistical models used to test the hypotheses derived from the research questions will be presented, as well. Chapter 5 will summarize key findings, provide a detailed discussion of these findings, address limitations of the study, and future directions for research.

CHAPTER 4. ANALYTIC STRATEGY AND RESULTS

This chapter outlines the analytic strategy composed of a set of statistical analyses used to assess the influence of constructs derived from target congruence (TC) and lifestyle-routine activity (LRAT) perspectives in predicting variation in bullying, as measured by teasing. From the target congruence perspective, I assess the impact of target vulnerability and target antagonism on bullying, while I assess the impact of exposure to motivated offenders and guardianship drawn from the LRAT perspective. These theories hypothesize that measures of target vulnerability, target antagonism, and exposure to motivated offenders increase the risk of youth being teased, while measures of guardianship are expected to reduce youth risk of being teased. These relationships should, moreover, hold across specific types of teasing experiences, suggesting that the effects are general and not specific.

ANALYTIC STRATEGY

Hypotheses were assessed in three steps. First, I examined bivariate correlations between independent and dependent variables. Correlations assist in identifying relationships among variables used in the study, as well as provide information on the magnitude and direction of covariation between variables. They also provide information concerning possible problems with multicollinearity. For rigor, a two-tailed test is used and multicollinearity will be assessed by estimating variance inflation factor (VIF) scores. Results of these analyses are presented in Tables 4 – 1 through 4 – 3.

Second, since several dependent variables were measured at the binary level, logistic regression was used to assess the independent effects of key TC and LRAT predictors, as

measured by individual characteristics and behaviors, social contexts, and situational factors, on youth risk of being teased. Logistic regression coefficients provide information on the direction and magnitude of the effect of each independent variable on the dependent variable while statistically controlling for the influence of other variables in the model. This study also used a series of logistic regression analyses to estimate the effects of the same independent predictors on specific types of teasing outcomes. For these models, logistic regression is the most appropriate statistical tool since the outcomes are measured dichotomously. It is important to note that only one of the five logistic regression models use the entire sample, as it is the filter question which asks youth if they have been teased or picked on. The logistic regression models predicting risk of specific types of teasing are subsamples of the aforementioned model. Thus, the subsamples are based on the assumption that the respondents answering the questions about specific types of teasing, indicated that they had been teased on the filter question. \Results of logistic regression analyses are presented in Tables 4 – 4 and 4 – 5.

Finally, the last dependent variable examined was constructed by summing the dependent variables into an index, which represents a count of the number of teasing experiences reported by the respondent. Count measures are typically assessed through either Poisson regression or negative binomial regression since the underlying statistical distributions deviate from a linear form. Both Poisson and negative binomial regression procedures were estimated, with results of Poisson regression analyses indicating overdispersion. The presence of overdispersion in the distribution of teasing experiences is likely due to an imbalance in individual risk (Ousey, Wilcox, and Brummel, 2008) of being teased in the sample. The imbalance of individual risk is due to a large percentage of the sampled youth who reported that they had not been teased.

Goodness of fit statistics[2] also indicated negative binomial regression as the best model to analyze the data. The sample size for the negative binomial regression analysis is not based on the full sample. Instead, the sample size is based on the subsamples for the 11 specific types of teasing items. Thus, the results of negative binomial analyses are presented in Tables 4 – 6 and 4 – 7. An overall summary of results is provided at the end of the chapter.

RESULTS

Correlations

The first step was to examine the correlations between independent and dependent variables. As is often the case, variables were measured at different levels making the choice of analytical method difficult. When variables are measured at an ordinal or interval level, statistics based on linear assumptions are appropriate. When variables are measured at binary levels, however, non-parametric measures of association are often used. Consistent with established standards, standardized covariances were estimated through Pearson's Correlation Coefficients (r) and are reported in Tables 4 – 1 and 4 – 2.[3] Table 4 – 1 shows the correlation matrix for the dependent measures. Consistent with expectations, the results revealed significant covariation between each of the measures, with average correlations between items ranging from weak to moderate. For example, the correlation between being teased because of a disability and being teased because of one's race ($r = .13$) or because of one's sexual orientation ($r = .17$) was relatively weak. That said, correlations between individual items and the summated Teasing Experience Index were moderate to high. Overall, however, the data show that individual teasing

[2] A table comparing the of goodness of fit statistics for Poisson and negative binomial regression is provided in the Appendix (see Appendix B).
[3] Measures of association for non-parametric data, such as Kendall's Coefficient of Rank Correlation tau-sub-b (τb) Point-Biserial Correlation Coefficient, Phi Coefficient (φ) and Goodman and Kruskal's Lambda (λ). will be provided upon request.

experiences often do not correlate well, probably because certain teasing experiences are based on discrete or non-shared characteristics such as race or sex.

Table 4 – 2 presents the correlation matrix for the independent measures. As expected, results affirmed significant covariation between many of the measures, with average correlations ranging from low to moderate in magnitude. For example, engaging in school sports and having close friends or peers that engage in delinquency ($r = .00$) were not correlated, while perceiving school rules to be fair and being attached to school ($r = .57$) was moderately high. Moreover, the results show that core theoretical variables, such as target vulnerability, target antagonism, and several of the lifestyle-routine activities measures were not well-correlated.

Multicollinearity

In addition to assessing the magnitude and degree of covariation between the independent and the dependent measures, bivariate correlations were used to examine the level of association between the independent measures. Overall, there was not a high level of association between the independent measures. All Pearson Correlation Coefficients fell below .60, suggesting collinearity was not likely an issue. However, to further ensure that multicollinearity was not present in the data, variance inflation factor (VIF) scores were calculated. Consistent with the results of bivariate correlations, VIF scores did not indicate the presence of multicollinearity. As presented in Table 4 – 3, VIF scores ranged from 1.04 to 1.88. Because the VIF scores fell below four, and overall, were closer to one, additional testing for multicollinearity was not warranted.

Table 4 – 1: Correlation Matrix of Dependent Variables (N = 3,109)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Teased (Filter Question)	1.00												
(2) Teased for Religion	.34**	1.00											
(3) Teased for Race	.27**	.15**	1.00										
(4) Teased for Sexual Orientation	.14**	.09**	.11**	1.00									
(5) Teased for Social Class	.49**	.21**	.17**	.12**	1.00								
(6) Teased for Gender	.41**	.24**	.23**	.15**	.36**	1.00							
(7) Teased for Hometown/Country	.36**	.19**	.26**	.10**	.25**	.38**	1.00						
(8) Teased for Disability	.23**	.16**	.13**	.17**	.20**	.18**	.16**	1.00					
(9) Teased for Appearance	.82**	.27**	.25**	.12**	.47**	.36**	.32**	.22**	1.00				
(10)Teased for Opinions	.69**	.29**	.20**	.10**	.42**	.39**	.29**	.16**	.65**	1.00			
(11)Teased for Speech	.34**	.12**	.14**	.08**	.23**	.26**	.35**	.20**	.33**	.33**	1.00		
(12)Teased for Name	.54**	.24**	.20**	.10**	.35**	.35**	.30**	.19**	.50**	.45**	.29**	1.00	
(13)Teasing Experience Index	.80**	.46**	.41**	.23**	.64**	.63**	.56**	.37**	.80**	.76**	.52**	.68**	1.00

$p \leq .05$*, $p \leq .01$**

Table 4 – 2: Correlation Matrix of Independent Variables (N = 2,542)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(1) Target Vulnerability	1.00																	
(2) Low Self-Control	.48**	.00																
(3) Delinquency .	23**	.40**	1.00															
(4) Peer Delinquency	.11**	.24**	.27**	1.00														
(5) School Sports	-.12**	-.04*	.01	.00	1.00													
(6) School Activities	.01	-.10**	-.07**	-.03*	.05**	1.00												
(7) Community Activities	-.01	-.09**	-.09**	-.05*	.16**	.21**	1.00											
(8) School Disorder	.15**	.27**	.26**	.19**	.04*	.02	-.02	1.00										
(9) Maternal Attachment	-.18**	-.30**	-.29**	-.19**	.07**	.09**	.16**	-.18**	1.00									
(10) Paternal Attachment	-.20**	-.25**	-.20**	-.15**	.11**	.06**	.12**	-.16**	.40**	1.00								
(11) Peer Attachment	-.09**	-.12**	-.16**	-.05**	.07**	.10**	.12**	-.02*	.24**	.14**	1.00							
(12) School Attachment	-.16**	-.37**	-.38**	-.19**	.10**	.15**	.17**	-.23**	.42**	.27**	.25**	1.00						
(13) Rule Fairness	-.12**	-.32**	-.31**	-.20**	.03	.07**	.09**	-.30**	.34**	.26**	.16**	.57**	1.00					
(14) Changed Schools	.07**	.10**	.15**	.02	.00	-.06**	-.03	.05*	-.04**	-.05*	-.03	-.06**	-.03	1.00				
(15) Gender (Female)	.09**	-.09**	-.19**	-.04*	-.02	.18**	.13**	.02	.12**	-.05**	.24**	.22**	.08**	-.03	1.00			
(16) Socioeconomic Status (SES)	-.07**	-.13**	-.05*	-.07**	.08**	.13**	.10**	.09	.07**	.11**	.03**	.05*	.03	-.04*	.00	1.00		
(17) Race (Non-White)	.02	.08**	.07**	.02	-.01	-.02	.01	.00	-.04*	-.14**	-.08**	-.07**	-.07**	.06**	-.01	-.02	1.00	
(18) School Failure	-.19**	-.33**	-.28**	-.16**	.15**	.21**	.17**	-.11**	.25**	.21**	.17**	.32**	.19**	-.11**	.16**	.23**	-.14**	1.00

p≤ .05*, p≤ .01**

Table 4 – 3: Variance Inflation Factor Scores for Sample

Variable	VIF	1/VIF
Target Vulnerability	1.39	.72
Low-Self Control	1.72	.58
Delinquency	1.47	.68
Peer Delinquency	1.17	.86
School Sports	1.08	.93
Other School Activities	1.12	.89
Community Activities	1.11	.90
School Disorder	1.20	.83
Maternal Attachment	1.44	.69
Paternal Attachment	1.30	.77
Peer Attachment	1.16	.86
School Attachment	1.88	.53
Rule Fairness	1.65	.61
Changed Schools	1.04	.96
Gender (Female)	1.20	.83
Socio-economic Status	1.10	.91
Race (Non-White)	1.04	.96
School failure	1.36	.74

Logistic Regression Models

Five logistic models were estimated in the current study. In Model 1, the initial teasing outcome variable, which asked respondents if they "have been teased or picked on in a mean way…" was regressed on measures of target congruence (TC) and lifestyle-routine activities (LRAT) measures as well as the control measures. While Model 1 assesses variation in a single-item question that asked respondents if they had ever been teased, Models 2 through 5 assess variation in specific, discrete teasing outcomes. Students were asked if they had ever been teased because of their social class, their physical appearance, their political opinions, and their name. Other questions were included in the survey about other teasing experiences but fewer students endorsed those questions. For example, of the 1,204 students who indicated that they had been teased, only one percent reported that they had been teased for their sexual orientation. The four analyzed in this study had prevalence rates of 10

percent or more, which provided sufficient variation in the dependent variables. were regressed on the same measures of TC and LRAT, as well as control variables included in Model 1.

For Models 1 through 5, goodness of model fit was assessed using Pearson's Chi-Square (χ^2) and Nagelkerke's Psuedo R^2 statistics. Across the models, Pearson's Chi Square statistic was significant ($p \leq .001$) suggesting the fit was better with all independent variables included than without being included. For Models 1 through 5, Nagelkerke Psuedo R^2 statistics ranged from .14 to .19, which indicated fair to moderate explanatory power. The goodness of fit statistics, odds ratios (OR), B coefficients, standard errors (SE), and log likelihood statistics for these models are reported in Tables 4 – 4 and 4 – 5.

Model 1 – Have Respondents Been Teased

The results for logistic regression analysis of the predictor measures – TC and LRAT – as well as control variables on the initial question of whether or not respondents' "have been teased or picked on in a mean way … " (see Appendix A) are reported in Table 4 – 4. The analyses for Model 1, address the following research questions:

(1) Do concepts from TC help explain teasing victimization? Specifically,

a. Is target vulnerability associated with a significantly increased risk of experiencing teasing?

b. Is target antagonism associated with a significantly increased risk of experiencing teasing?

(2) *Do concepts from LRAT help explain overall teasing victimization?*

   a. *Is exposure to motivated offenders associated with a significantly increased risk of experiencing teasing?*

   b. *Is guardianship associated with a significantly decreased risk of experiencing teasing?*

The results shown in Model 1 revealed support for the target congruence perspective in explaining the risk of being teased among youth. Target congruence measures, including the measure of target vulnerability and target antagonism, as measured by low self-control, were significantly related to respondent reports of being teased. Controlling for other predictors, youth with higher levels of target vulnerability, such as introversion and anxiety, were 1.62 times ($p \leq .001$) more likely to report being teased than youth with lower levels of target vulnerability. Youth with lower levels of self-control, were 1.58 times ($p \leq .001$) more likely to report being teased (see Table 4 – 4).

Model 1 findings also revealed some support for LRAT measures in predicting the risk of being teased. For example, two variables measuring exposure to motivated offenders, participation in other school activities and perceived school disorder, were significantly associated with being teased. Youth who participated more in school activities, such as band and student government, were 1.12 times ($p \leq .001$) more likely to report being teased than youth who did not participate in school activities. Similarly, youth who perceived higher levels of disorder at school were 1.23 times ($p \leq .001$) more likely to report having been teased.

For the guardianship construct, fairness of school rules was significantly related to youth reporting being teased. Youth who perceived their school rules to be fair, had decreased odds of

reporting being teased (.94, $p \leq .001$). For the control measures. being female (1.35, $p \leq .01$), non-white (1.76, $p \leq .001$), and doing poorly in school (1.13, $p \leq .05$), increased a youth's likelihood of reporting being teased (see Table 4 – 4).

Table 4 – 4: Model 1 – Logistic Regression Analysis for Teased (Filter Question)

Variable	B	SE	OR
Target Congruence			
Target Vulnerability	.48***	.06	1.62
Target Antagonism	.45***	.09	1.58
Lifestyle-Routine Activities			
Exposure			
Delinquency	.02	.18	1.02
Peer Delinquency	.00	.02	1.00
Sports Participation	-.05	.03	1.00
Other School Participation	.11***	.03	1.12
Community Participation	.11**	.04	1.12
School Disorder	.21***	.06	1.23
Guardianship			
Maternal Attachment	-.01	.01	1.00
Paternal Attachment	.01	.00	1.01
Peer Attachment	-.03	.09	1.00
School Attachment	.16	.12	1.18
Rule Fairness	-.06***	.02	.94
Control variables			
Changed Schools	.23	.23	1.26
Gender (Female)	.30**	.10	1.35
SES	-.01	.02	1.00
Race (Non-White)	.56***	.16	1.76
School failure	.13*	.06	1.13
Constant	-1.99**	.64	.14
$\chi 2$	337.60		
–2 log likelihood	2685.60		
Pseudo R2	.19		
N	2288		

*$p \leq .05$; **$p \leq .01$ **; ***$p \leq .001$

Model 2 - Teased Due to for Social Class

Because students are teased for a variety of reasons, Models 2 through 5 examine the relationship between TC, LRAT and specific types of teasing outcomes. Models 2 through 5 address the following research questions, with each model testing a specific type of teasing outcome

(3) Do concepts from TC help explain specific types of verbal teasing? Specifically,

a. Is target vulnerability associated with a significantly increased risk of being teased for one's social class, one's appearance, one's political opinions and one's name?

b. Is target antagonism associated with a significantly increased risk of being teased for one's social class, one's appearance, one's political opinions and one's name?

(4) Do concepts from LRAT help explain specific types of verbal teasing? Specifically,

a. Is exposure to motivated offenders associated with an increased risk of experiencing teasing for one's social class, one's appearance, one's political opinions and one's name?

b. Is guardianship associated with a significantly decreased risk of experiencing teasing for social class, one's appearance, one's political opinions and one's name?

Model 2, shown in Table 4 – 5, presents the results of the logistic regression analysis of student reports of being teased because of their social class on the – TC and LRAT and control variables. Similar to the results shown in Model 1, the findings in Model 2 show that the measures of target congruence—that is, target vulnerability and low self-control, significantly predicted self-reports of youth being teased because of their social class. Youth with higher levels of anxiety and other emotional vulnerabilities were 1.73 times ($p \leq .001$) more likely to report being teased for their social class, than youth with lower levels of anxiety and introversion. Youth with lower levels of self-control, were 1.27 times ($p \leq .05$) more likely to report being teased because of their social class (see Table 4 – 5).

Results from Model 2, however, show weak support for LRAT in explaining youth risk of being teased because of their social class. Students who participated in school activities were 1.10 times ($p \leq .05$) more likely to report being teased for their social class. Of the five measures of guardianship, fairness of schools was the only variable that had a significant, albeit small, effect on being teased for social class. In other words, students who perceived school rules to be fair, had lower odds of reporting being teased for social class (.93, $p \leq .001$). Students who changed schools during the year (2.03, $p \leq .01$) and that had poor school performance (1.38, $p \leq .001$), had higher odds of being teased for their social class. And, in comparison to their male counterparts, female students were 1.37 times ($p \leq .05$) more likely to report being teased for social class (see Table 4 – 5).

Table 4 – 5: Models 2 through 5 - Logistic Regression Analysis Predicting Specific Teasing Outcomes

	Social Class Model 2			Appearance Model 3			Opinions Model 4			Name Model 5		
Variable	B	SE	OR	B	SE	OR	B	SE	OR	B	SE	OR
Target Congruence												
Target Vulnerability	.55***	.08	1.73	.58***	.06	1.79	.56***	.06	1.75	.51***	.07	1.67
Target Antagonism	.24*	.12	1.27	.41***	.10	1.51	.33***	.10	1.40	.43***	.12	1.54
Lifestyle-Routine Activities												
Exposure												
Delinquency	.31	.20	1.37	-.15	.18	.87	-.57**	.20	.57	-.02	.20	.98
Peer Delinquency	.03	.02	1.03	.02	.02	1.02	.04*	.20	1.04	.00	.02	1.00
Sports Participation	.01	.05	1.01	-.08*	.03	.92	-.03	.04	1.00	-.04	.04	.96
School Participation	.09*	.04	1.10	.11***	.03	1.11	.12***	.03	1.13	.12**	.04	1.13
Community Participation	.11	.06	1.11	.12**	.04	1.13	.04	.05	1.05	-.04	.06	.96
School Disorder	.09	.09	1.09	.19**	.07	1.20	.22**	.07	1.25	.05	.08	1.05
Guardianship												
Maternal Attachment	-.00	.01	1.00	-.01	.01	1.00	-.01	.01	.99	-.01	.01	.99
Paternal Attachment	.00	.01	1.00	.00	.00	1.00	.00	.00	1.00	.00	.01	1.00
Peer Attachment	-.17	.12	.84	-.02	.10	1.00	.06	.11	1.06	-.07	.12	.94
School Attachment	.08	.16	1.08	.19	.13	1.21	.35**	.14	1.42	.30*	.15	1.35
Rule Fairness	-.08***	.02	.93	-.05	.02	1.00	-.10***	.02	.91	-.08***	.02	.93
Control variables												
Changed Schools	.71**	.27	2.03	.30	.23	1.34	.07	.26	1.07	-.12	.30	.89
Gender (Female)	.31*	.15	1.37	.14	.11	1.15	.17	.12	1.19	-.03	.14	.98
SES	.02	.03	1.02	-.04	.03	1.00	.02	.02	1.02	-.03	.04	.97
Race (Non-White)	-.07	.24	.94	.51**	.17	1.67	.20	.19	1.22	.25	.21	1.29
School Failure	.32***	.09	1.37	.21**	.07	1.24	.11	.07	1.12	.17*	.08	1.18
Constant	-3.76***	.87	.02	-2.42***	.69	.09	-2.07***	.73	.15	-2.79***	.82	.06
χ2	188.96			320.40			279.24			181.56		
–2 log likelihood	1521.86			2374.25			2078.88			1651.66		
Pseudo R2	.15			.19			.18			.14		
N	2253			2270			2260			2262		

*p ≤ .05; **p ≤ .01 **; ***p ≤ .001

Model 3 - Teased for Appearance

For Model 3, measures of TC and LRAT were used to predict being teased because of one's physical appearance. Results of the logistic regression analysis are reported in Table 4 – 5. Consistent with previously reported results, the findings for Model 3 indicated support for TC in predicting teasing risk for youth appearance or looks. Youth with higher levels of target vulnerability (1.79, $p \leq .001$), were more likely to report being teased due to their appearance than youth with lower levels of target vulnerability. Youth lower levels of self-control (1.51, $p \leq .001$) also were more likely to be teased for their appearance.

Results for Model 3 suggested moderate support for LRAT measures in explaining youth risk of being teased for their appearance. Measures of exposure to motivated offenders, such as participation in school sports, participation in other school activities, participation in community events and perception of school disorder, all had a significant impact on youth risk of being teased due to their appearance (see Table 4 – 5). Students with more participation in other school activities, such as band and yearbook (1.11 $p \leq .001$), and community activities, such as church, youth group, 4H, Boy/Girl Scouts (1.13, $p \leq .01$), were more like to report being teased for their appearance. Youth who perceived higher levels of disorder at school (1.20, $p \leq .01$) were also at an increased risk of being teased because of their appearance.

Moreover, consistent with previous research (see Peguero, 2008), students who participated in school sports had lower odds of reporting being teased for appearance (.92, $p \leq .05$). And, youth with poor school performance (1.24, $p \leq .01$) and who identified as Non-White (1.67, $p \leq .01$), were more likely to report being teased for their appearance (see Table 4 – 5).

Model 4 - Teased Due to Opinions

The results of logistic regression analysis of the predictor measures – TC and LRAT – as well as control variables on being teased for one's opinions are reported in Table 4 - 5. Similar to the preceding logistic regression models, the analyses shown in Model 4 confirmed support for TC and mixed support for LRAT. For TC, findings suggest that youth with higher levels of target vulnerability (1.76, $p \leq .001$) and lower levels of self-control (1.39, $p \leq .001$) were at an increased risk of being teased for their opinions. For LRAT measures of exposure to motivated offenders, youth who engaged in other school activities (1.13, $p \leq .001$) and who perceived higher levels of disorder at school (1.25, $p \leq .001$), were more likely to report being teased for their opinions. Conversely, youth who participated in relatively more deviant behaviors had lower odds of being teased for their opinions by a (.57, $p \leq .01$). While this finding does not align with LRAT's application of exposure to motivated offenders, it is consistent with the view that youth networks are composed of individuals holding similar attitudes and values (Kandel, 1978). As anticipated, youth who reported having friends that engaged in a variety of delinquent behaviors were slightly more at risk of being teased for their opinions (1.04, $p \leq .05$). When considering the previous finding, this estimate suggests that when youth express an opinion or behavior that does not align with their friend network, they are at risk for being teased (Maccoby and Jacklin, 1987).

For measures of guardianship, fairness of school rules and school attachment were significant predictors in Model 4. Though the effect was small, youth who deemed the school rules to be fair, had lower odds of being teased for their opinions (.91, $p \leq .001$; see Table 4 – 5). The positive relationship (1.42, $p \leq .01$) found between school attachment and teasing, was not congruent with LRAT.

Model 5 - Teased Due to One's Name

The results of the analysis for Model 5, which are reported in Table 4 – 5, were fairly consistent with the other logistic regression models in this study. Specifically, both measures of TC were significantly related to self-reports of being teased for one's name. Specifically, youth with higher levels of target vulnerability, such as anxiety, emotional vulnerability and introversion, were more likely (1.67, $p \leq .001$) to report experiencing teasing because of their name. Youth with higher levels of target antagonism, such as low self-control (1.54, $p \leq .001$), also were more likely to be at risk for being teased for their name.

Results for LRAT measures indicated weak support for constructs, exposure to motivated offenders and guardianship, to explain teasing of youth owing to their names. Like the previous models, youth who participated in school activities (1.13, $p \leq .01$), were more likely to report being teased because of their name. Youth who expressed higher levels of attachment to school (1.35, $p \leq .05$) were more likely to report being teased for their name. As previously mentioned (see Model 4 results), this finding does not align with LRAT. The only control measure that was significant in the model was school failure. Students with poor school performance (1.18, $p \leq .05$), were more likely to report being teased about their name.

Negative Binomial Regression Model

Thus far, my analyses have been of binary responses. In Model 6, however, the outcome variable is a count of the number of specific teasing experiences reported by the youth. The count measure includes 11 types of teasing, such as being picked on for religion, race, sexual orientation, social class, gender, hometown or home country, disability, appearance, political opinions, speech problem or accent, and name. This count measure represents an index of teasing experiences and was regressed on measures of target congruence (TC) and lifestyle-routine activities (LRAT) measures as well as the control measures. Goodness of model fit was assessed using the ratio of Pearson's Chi Square to degrees of freedom (χ^2/df), Akaike's Information Criterion (AIC) and Bayesian Information Criterion (BIC), which are reported in Table 4 – 6 and Appendix B[4]. Parameter estimates, which include B coefficients, standard errors (SE), Wald Chi Square (χ^2) values and the incident rate ratio (IRR) are reported in Table 4 – 7.

Table 4 – 6: Model 6 - Negative Binomial Regression Goodness of Fit (N=2,232).

Criterion	Value	df	df
Deviance	2501.34	2213	1.13
Scaled deviance	2501.34	2213	
Pearson Chi-Square	2905.50	2213	1.31
Scaled Pearson	2905.50	2213	
Log-likelihood	-2933.02		
AIC	5904.05		
BIC	6012.55		

Note: AIC = Akiake's information criterion; BIC = Bayesian information criterion

[4] Appendix B is a table comparing the goodness of fit statistics for the Poisson regression model to the negative binomial model. The ratio of Pearson's Chi Square value to degrees of freedom was closer to one and the AIC and BIC estimates were lower for the negative binomial regression model.

Model 6 – Teasing Experiences Index

The results for negative binomial regression analysis of the predictor measures – TC and LRAT – as well as control variables on the count measure of youth teasing experiences is reported in Table 4 – 7. The analyses for Model 6, address these research questions:

(1) Do concepts from TC help explain overall teasing victimization? Specifically,

a. Is target vulnerability associated with a significantly increased risk of experiencing teasing?

b. Is target antagonism associated with a significantly increased risk of experiencing teasing?

(2) Do concepts from LRAT help explain overall teasing victimization?

a. Is exposure to motivated offenders associated with a significantly increased risk of experiencing teasing?

b. Is guardianship associated with a significantly decreased risk of experiencing teasing?

The results shown in Model 6 revealed support for the target congruence perspective in explaining the variety of teasing experiences reported by youth. Both measures of target congruence – target vulnerability and target antagonism – were significant predictors in the model.

Controlling for other variables, the risk of experiencing an incident of teasing was 1.55 ($p \leq .001$) times greater for each unit increase in target vulnerability. Stated differently, a 55 percent increase in the risk of experiencing an incident in teasing was associated with a one-unit increase in target vulnerability. The risk of experiencing an incident of teasing was 1.37 ($p \leq .001$) times greater, or increased by 37, percent (see Table 4 – 7) for each unit increase in low self-control. Both measures of target congruence were comparable in magnitude (IRR = 1.55 for target vulnerability and IRR = 1.37 for target antagonism).

Findings for Model 6 also demonstrated support for LRAT measures in predicting the variety of teasing experiences. Measures of exposure to motivated offenders, including peer delinquency, participation in other school activities, participation in community activities and perception of school disorder, were significantly related to the index. For every unit in exposure to delinquent friends and for every unit increase in time spent in school activities such as yearbook and band that a youth has, their risk of experiencing an incident of teasing increased 2.2 and 8.7 percent, respectively. For every unit increase in time spent in community activities such as church or youth group, a student's risk increased 6.7 percent. And, a student's risk of experiencing an incident of teasing increased 1.13 times in the presence of disorder at school. Similar to the target congruence measures, the magnitude of the measures of exposure to motivated offenders were similar (see Table 4 – 7).

Of the control variables, gender, race and grade average were all significant predictors. Female students had a 21 percent increase in the risk of experiencing an incident of teasing versus male students, and Non-White students had 48 percent greater risk of experiencing teasing than their White student peers. The more poorly students performed in school (IRR = 1.17), the more at risk they were of experiencing teasing. While the magnitude of gender (IRR = 1.21) and school failure (IRR = 1.17) (see Table 4 – 7) were similar in strength, race was the stronger characteristic of the significant control measures. Finally, the measure of school attachment was also significant (IRR = 1.20) in Model 6, suggesting that students more closely attached to school are also at increased risk of bullying.

For each theoretical perspective – TC and LRAT – the effects of independent variables were comparable in magnitude. In comparing the constructs from both theoretical perspectives and controlling for other factors, the target vulnerability (IRR = 1.55) measure appeared to have the

strongest effect on youth risk of experiencing an incident of teasing. This was followed closely by race, which indicated that Non-White (IRR = 1.48) youth had a greater risk of experiencing an incident of teasing than their White peers (see Table 4 – 7).

Table 4 – 7: Model 6 - Negative Binomial Regression Analysis of Teasing Experience Index (N=2,232)

	Parameter	B	SE	Wald $\chi2$	IRR
	Intercept	-1.95***	.43	20.20	.14
Target Congruence					
Target Vulnerability		.44***	.04	141.96	1.55
Target Antagonism	Low Self-Control	.31***	.06	26.40	1.37
Lifestyle-Routine Activities					
Exposure to Motivated Offenders					
	Delinquency	.18	.12	2.47	1.20
	Peer Delinquency*	.02	.01	5.51	1.02
	Sports Participation	-.02	.02	.75	.98
	Other School Participation	.08***	.02	17.53	1.09
	Community Participation	.07*	.03	5.63	1.07
	School Disorder	.13**	.04	9.20	1.13
Guardianship					
	Maternal Attachment	-.01	.00	2.09	.99
	Paternal Attachment	.00	.00	.03	1.00
	Peer Attachment	.00	.06	.00	1.00
	School Attachment	.18*	.08	5.46	1.20
	Rule Fairness	-.05***	.01	20.32	.96
Controls					
	Changed Schools	.24	.14	2.78	1.27
	Socioeconomic Status (SES)	.00	.02	.07	1.00
	Gender (Female)	.19**	.07	7.95	1.21
	Race (Non-White)	.39***	.11	14.08	1.48
	School Failure	.16***	.041	14.54	1.17

*p ≤ .05; **p ≤ .01 **; ***p ≤ .001

SUMMARY

Bivariate correlations, and logistic and negative binomial regression models, were estimated to explore the influence of measures derived from the TC and LRAT perspectives. The impact of these constructs was assessed on a global measure of being teased, on specific types of teasing events, and on a variety of measure of the number of types of teasing events. Measures of TC constructs, namely target vulnerability and target antagonism, and the LRAT constructs of exposure to motivated offenders, were expected to increase youth risk of experiencing teasing. Measures of the LRAT construct of guardianship were expected to decrease youth risk of being teased. While a brief summary of key findings is provided below, a more detailed discussion of findings, theoretical and policy implications, and limitations of the study are discussed in the next chapter.

Across models, results consistently confirmed support for TC measures. Target vulnerability and target antagonism predicted youth risk of teasing and were significant in all analytical models. Thus, youth with comparatively higher levels of anxiety, introversion, and other emotional vulnerabilities, and with lower levels of self-control, appear substantively more at-risk for being teased and for being teased for specific reasons. Of the two measures, target vulnerability was the strongest predictor of youth experiencing an incident of teasing.

While not all measures of LRAT constructs were significant across all models, there were some consistent findings to note. Participation in other school activities and fairness of school rules, which are measures of exposure to motivated offenders, were significant and in the expected direction across all equations. Youth who participated relatively more in school activities such as band, student government and yearbook, and who perceived higher levels of

disorder in their school, such as gangs and the availability of drugs, guns, alcohol and cigarettes, were at an increased risk of experiencing teasing.

Measures of guardianship, however, were of limited explanatory value. The only measure that was significant across all models was youth perception of fairness of school rules. As expected, youth who perceived school rules to be fair, had a lower risk of being teased. No other guardianship variables were consistently related to teasing events.

Though control variables were not the focus of the analyses in Chapter 4, the measure, school failure, was significant in five of the six analytical models, and was positively associated with teasing experiences. Thus, youth who performed more poorly in school academics, were more at risk of being teased. The only exception to this was teasing outcomes related to opinions. The effects of gender and race were less consistent across the models. Being female had an effect on overall risk of experiencing teasing, as well as being teased for one’s social class. Non-White students also had an increased risk of experiencing teasing, especially teasing for their looks or appearance.

CHAPTER 5. DISCUSSION AND CONCLUSION

Lifestyle-routine activities (LRAT) is a theoretical paradigm that has garnered attention from criminologists and victimologists interested in predicting bullying and peer victimization (see Campbell Augustine et al., 2002; Unnever and Cornell; 2003; Burrow and Apel, 2008; Peguero, 2008, 2009; Popp, 2012a, 2012b; Cho and Wooldredge, 2016; Cho and Lee, 2018; Choi, Earl, Lee and Cho, 2019; Cho, 2019; Cecen-Celik and Keith, 2019; Kulig, Cullen, Wilcox and Chouhy, 2019). Empirical studies of LRAT find fairly consistent empirical support for two of the paradigms major constructs—that is, exposure to motivated offenders and guardianship. Exposure to offenders generally increases the risk of victimization, while guardianship factors generally reduce the risk of victimization. The third major LRAT construct, target attractiveness, has enjoyed less consistent empirical support (Popp, 2012b; Augustine et al., 2002; Finkelhor and Asdigian,1996; Lauritsen et al., 1992; Meier and Miethe, 1993).

An alternative theoretical perspective, target congruence (TC), also seeks to explain victimization of youth but has received considerably less interest from researchers. As a result, few studies (see Campbell Augustine et al., 2002, Tyler and Beal, 2010 and Zavala, 2018) have evaluated the connection between TC and victimization among youth. And until now, no studies have explicitly tested constructs from each perspective in the same analytic model, using a sample of youth. Thus, the goal of this study was to determine the utility of an integrated theoretical model that incorporates both TC and LRAT measures to better understand individual, environmental, and situational factors that shape youth experiences with bullying victimization.

Using data collected from from public middle school students in Kentucky, I tested the ability of LRAT and TC constructs to predict risk of one form of bullying victimization, that is,

verbal teasing. Bullying, for example, is rarely physical but is instead embedded in verbal exchanges that threaten, humiliate, or embarrass the target. Because teasing experiences are subjectively understood, however, it is not clear if the predictors of physical forms of bullying victimization would also predict verbal teasing. This dissertation represents one of the first attempts to simultaneously test constructs from LRAT and TC, especially as they apply to a rarely researched area of behavior—teasing.

Thus, this chapter begins with a discussion of the main conclusions derived from the findings presented in Chapter 4. First, the usefulness of LRAT measures in predicting youth risk of being teased by their peers is reviewed. As supported by previous studies, the effects demonstrate that LRAT measures – namely, exposure – which provide some sense of understanding about youth social contexts, are more consistent predictors of teasing victimization than risky lifestyles and guardianship. Second, the value of using TC measures – specifically, target vulnerability and target antagonism – to predict teasing is assessed. Results suggest that TC measures which capture personality traits, shape youth risk of being teased. Third, relevance of other common factors and socio-demographic characteristics in understanding teasing are summarized. Overall, socio-demographic characteristics do not appear to be consistent predictors of teasing outcomes. Fourth, the role of LRAT and TC measures in understanding prevalence of teasing is addressed. Ultimately, teasing does not appear to be an experience that is widely reported among 7th Grade students. Last, the utility of an integrated model that includes both measures of LRAT and TC is discussed. Given the effects, which are supported by other empirical studies, TC offers more promise is predicting teasing among youth than does LRAT. Following these contributions, is a brief discussion of potential limitations of

the current study, as well as future directions for research. And finally, given the contributions of the study, the chapter closes with recommendations for bullying policy and prevention efforts.

Predicting Teasing Victimization

The following sections summarize important conclusions evidence on measures of two competing theoretical perspectives – LRAT and TC – and youth risk of being teased by their peers. Though the results provide some support for LRAT measures, collectively, measures of TC – particularly, personality traits – are found to be more reliable predictors of youth risk of being teased by their peers. Summaries of the significant effects from the analytical models discussed in Chapter 4, are presented in Tables 5 – 1 through 5 – 4.

Lifestyle-Routine Activities

After controlling for other factors, LRAT measures that tap into school climate and specific social contexts appear to have more of an effect on youth risk of being teased than engaging in deviant behaviors. For example, youth who perceive their teachers, principal and school rules to be fair, as well as the administration of punishment to be equitable, are slightly less likely to be teased than their peers who have a less favorable view. Youth who perceive a heightened presence of drugs, alcohol, guns and gangs on school grounds, are more at risk of being teased. Similarly, youth who participate more in school-sponsored activities like yearbook, student government, band or Future Farmers of America (FFA), and community activities such as church, youth group, 4H and Boy/Girl Scouts, are more likely to be exposed to other youth who bully or tease their peers. This effect, however, was not found for youth participation in school sports like basketball and cheerleading, nor was it found for measures of youth or peer

participation in deviant behaviors, such as using drugs, skipping school and physically attacking others (see Table 5 – 1).

Prior studies have reported similar results, often arguing that less structured activities may increase opportunities for bullying – in this case, teasing – due to less supervision or quality of supervision, over youth (Popp, 2012). In organized sports, for example, teachers, coaches and parents act to limit opportunities for victimization or they curtail instances of teasing. However, contrary to theoretical expectations, variables measuring personal and peer risky lifestyles were inconsistently related, if at all, to the measures of teasing. There are two possibilities: First, traditional predictors of criminal victimization may not be relevant to explaining teasing victimization. While speculative, it may be that teasing is differentially evaluated by those in networks where delinquent behavior is common. Teasing is subjectively understood, so some teasing may be interpreted as a sign of acceptance in a group instead of an effort to isolate and humiliate. Second, teasing may be better explained by specific environments that shape the day-to-day fabric of youth lives (Kulig et al., 2017). Youth strongly attached to school, for example, are more likely to be in attendance across the school year and they are more likely to engage in school activities than are delinquent youth. Exposure to these environments, and to the people in those environments, may simply subsume the effects of specific lifestyles.

Notably, the results of this study also reveal that specific social contexts may play more of a role in teasing victimization than relationships with parents and close peers. It appears that among the youth sampled, the strength of attachment to their mothers, fathers and peers had no measurable impact on the probability of being teased. This finding deviates from much of the previous work, which indicates that strong relationships with parents and peers reduce youth risk of being bullied (Baldry and Farrington, 2005; Perren and Hornung, 2005; Davidson and

Demaray, 2007; De Bruyn, Cillessen, and Wissink, 2010; Powell and Jenson, 2010; Rubin et al., 2004).

In sum, LRAT measures of informal guardianship that tap into youth relationships with their parents and peers, as well as measures of risky lifestyles, appear to offer little reliability in prediction of teasing. Instead, these findings draw attention to the importance of the structure of specific contexts and the social interactions that take place within these environments. Thus, it appears that the subjective appraisals of youth within some environments may elevate their risk of being teased.

Table 5 – 1: Summary of Lifestyle-Routine Activities Effects in Ever Been Teased and Teasing Experience Index Full Models

Independent Variable	Teased	Teasing Experiences Index
Exposure		
Delinquency	ns	ns
Peer Delinquency	ns	+
Sports Participation	ns	ns
Other School Participation	+	+
Community Participation	+	+
School Disorder	+	+
Guardianship		
Maternal Attachment	ns	ns
Paternal Attachment	ns	ns
Peer Attachment	ns	ns
School Attachment	ns	+
Rule Fairness	-	-
N	2288	2232

+ (positive effect, $p \leq .05$), – (negative effect, $p \leq .05$), ns (nonsignificant effect, $p \geq .05$)

Target Congruence

After controlling for measures of LRAT and other potential confounding variables, the TC constructs of target vulnerability and target antagonism were consistently and substantively predictive of being teased, of specific types of teasing, and of the variety of teasing experiences. Youth with lower levels of self-control, for example, were more likely to report being teased than youth with more self-control (see Table 5 – 2). This finding, which is consistent with previous studies, suggests that middle-school youth who are impulsive and easily angered (Schreck, 1999), may have difficulty interacting with their peers or engaging in complex social situations embedded in broader school dynamics (Pratt, 2016) which may evoke negative feelings from their peers (Jensen-Campbell, Knack, Waldrip, and Ramirez, 2009).

Similarly, youth with higher levels of anxiety and introversion were more likely to report being teased than youth with lower levels of anxiety (see Table 5 – 2). One explanation for this relationship might be that anxious youth exhibit behaviors that are perceived to be unusual by their peers, which results in rejection and peer victimization (Kreiger, 2007; Maccoby, 1998, as cited in Harris, 2009). Another explanation is that youth who are anxious are more sensitive to interactions and communications with their peers. Because of this, overly anxious youth may be more likely to anticipate negative responses, such as rejection and abandonment from their peers, or they may be more likely to interpret verbal exchanges as teasing (Mikulincer and Shaver, 2016 cited in Hameiri and Nadler, 2020).

These results demonstrate that TC measures of target vulnerability and target antagonism indicative of anxiousness, introversion and low self-control, are strong predictors of teasing risk. Personality traits thus play an important role in predicting teasing experiences.

Table 5 – 2: Summary of Target Congruence Effects in Ever Been Teased and Teasing Experience Index Full Models

Independent Variable	Teased	Teasing Experiences Index
Target Vulnerability	+	+
Target Antagonism	+	+
N	2288	2232

+ (positive effect, $p \leq .05$), – (negative effect, $p \leq .05$), ns (nonsignificant effect, $p \geq .05$)

Demographics and Other Factors

Although not the focus of this study, other factors outside of LRAT and TC measures, emerged as predictors of specific types of teasing. Poor academic performance, as measured by school failure, was the only factor that appears to have a uniform effect on youth risk of being teased (see Table 5 – 3). Specifically, youth who received poor grades were more likely to be teased for their social class, appearance and name. While the causal nature of the relationship between school performance and teasing is not explored in this study, this finding is consistent with previous empirical works, which confirm the existence of a positive association between poor academic achievement and bullying victimization (Juvonen, Wang, and Espinoza, 2011; Sharp, 1995).

Other predictors were found to be associated with specific types of teasing. For example, youth who changed schools during the present year were more at risk for being teased or picked on for their social class than were youth who had not switched schools. Similarly, female youth also were more likely to report experiencing being teased for social class than male youth. It is a reasonable assumption that youth who change schools during the current academic year, are

likely to be at a social disadvantage as they are forced to navigate the established social order as the "new kid" in school. Thus, youth who are perceived to have less economic means are a more vulnerable target for teasing. This may be especially problematic for female youth, who are more at risk for experiencing social types of bullying victimization, such as teasing, rumor spreading, and social isolation (Baldry and Farrington, 1999; Jeong and Lee, 2013; Olweus, 1993; Putallaz et al., 2007; Siann et al., 1994; Whitney and Smith, 1993).

The results also indicate that Non-White youth appear to be more at risk for being teased because of their appearance or looks than are white youth (see Table 5 – 3). A similar effect was found for youth who participate in community activities, such as church, youth group, FFA and Boy/Girl Scouts. In other words, similar to the relationship found between gender and being teased for social class, certain ethnicities may be more at risk for being bullied for their looks or appearance (see Table 5 – 3). A logical explanation is that youth who are not a member of the racial majority at school or in their community, may be more at risk for experiencing direct or passive aggressive comments, simply because they do not "look the same" as their peers.

In short, the role of other factors outside of LRAT and TC, like changing schools during the academic year and socio-demographic characteristics in shaping youth risk of being teased, are less clear. It appears that collectively, socio-demographics offer little consistency in predicting teasing – particularly, specific types of teasing – among youth. These results, however, are not necessarily concerning, as they align with previous research (Moran, Smith, Thompson, and Whitney, 1993; Siann et al., 1994; Wolke et al. 2001; Whitney and Smith, 1993; Woods, Stanford, and Schultz, 2001) and like LRAT, might suggest that socio-demographic characteristics have an indirect effect on victimization through measures of exposure, proximity and guardianship (Cohen et al., 1981). Additionally, the results subtly highlight the need – as

evidenced by the effects of school failure – to consider underlying individual processes or characteristics that impact the way youth see and respond to their environments.

Table 5 – 3: Control Variables Effects across Specific Types of Teasing (Full Models)

Independent Variable	Teased for Social Class	Teased for Appearance	Teased for Opinions	Teased for Name
Control variables				
Changed Schools	+	ns	ns	ns
Gender (Female)	+	ns	ns	ns
SES	ns	ns	ns	ns
Race (Non-White)	ns	+	ns	ns
School failure	+	+	ns	+
N	2253	2270	2260	2262

+ (positive effect, $p \leq .05$), – (negative effect, $p \leq .05$), ns (nonsignificant effect, $p \geq .05$)

Diversity of Teasing Experiences

Predictors of an overall index of youth teasing victimization experiences, which include eleven types/reasons such as one's opinions, sexual orientation and appearance, nearly mirror those for teasing (see Table 5 – 4). This finding suggests that regardless of the number of different types of teasing experienced by youth, TC measures that tap into personality traits, like anxiousness and low self-control, remain key predictors of teasing. Similarly, LRAT measures that capture school climate and social environments also continue to have an effect on teasing victimization.

While these results (see Table 5 – 4) suggest an overall consistency in predictors of collective teasing experiences, they overshadow important takeaways regarding prevalence. First, it is important to point out that only 30 percent (n=1,204) of the total sample (n=3,962) reported experiencing teasing. Of the students who reported being teased, the majority indicated that they only experienced one type of teasing. To explore this finding in the context of other types of peer victimization experienced among youth, an index of victimization experiences was created from seven survey items that asked youth about experiences such as having money stolen, being physically attacked and receiving unwanted sexual remarks during the current school year. On average, youth reported experiencing nearly two (1.98, SD = .03) types of peer victimization. Thus, it seems that youth are slightly more apt to report experiencing other types of peer victimization than being teased by their peers. Interestingly, these findings do not align with prior research (Markkanen, Valimaa and Kannas, 2019), which suggests that teasing is one of the most common types of bullying experienced and reported by youth.

Though the lack of reported incidents of teasing among the sampled youth is somewhat surprising, it also draws attention to the importance of considering individual perception when exploring incidents of bullying among youth.

Table 5 – 4: Summary of LRAT, TC and Controls Effects in Ever Been Teased and Teasing Experience Index Full Models

Independent Variable	Teased	Teasing Experiences Index
Target Congruence		
Target Vulnerability	+	+
Target Antagonism	+	+
Exposure		
Delinquency	ns	ns
Peer Delinquency	ns	+
Sports Participation	ns	ns
Other School Participation	+	+
Community Participation	+	+
School Disorder	+	+
Guardianship		
Maternal Attachment	ns	ns
Paternal Attachment	ns	ns
Peer Attachment	ns	ns
School Attachment	ns	+
Rule Fairness	-	-
Controls		
Changed Schools	ns	ns
Gender (Female)	+	+
SES	ns	ns
Race (Non-White)	+	+
School Failure	+	+

N	2288	2232

+ (positive effect, $p \leq .05$), – (negative effect, $p \leq .05$), ns (nonsignificant effect, $p \geq .05$)

Theoretical Utility

The results of this study demonstrated limited support for use of LRAT measures in predicting youth risk of teasing. Various school contexts and the presence of disorder on school grounds provided some level of explanation of teasing experiences among youth. The effects were inconsistent and generally small in magnitude. Moreover, the measures of risky lifestyles and the measures of guardianship were mostly unrelated to self-reported teasing experiences (see Table 1).

Unlike the LRAT measures, the measures operationalizing the Target Congruence perspective were consistently predictive of teasing experiences. When considering the magnitude of the effects and the consistency of those effects, the Target Congruence perspective appears empirically stronger than the LRAT perspective (see Chapter 4, Table 1). Measures of target vulnerability that consisted of high levels of anxiousness, introversion, and overall emotional vulnerability were significantly related to the likelihood of being teased. Similarly, the measure of self-control was also consistently and strongly related to self-reported teasing. Target antagonism thus appears to shape youth risk of being teased (see Tables 1 and 3).

While it appears that measures of TC are more reliable predictors of being teased (see Table 1), holistically, the results provide support for use of a carefully specified theoretical model that incorporates key concepts from both TC and LRAT. Such a perspective would likely view exposure to specific social contexts as the conduit through which risk of bullying and

teasing are structured, with the individual-level measures drawn from the TC perspective imparting differential risks on youth embedded within those contexts. Future tests of the integrated theory should thus examine the hierarchical relationships between the social context and individual personality traits.

Limitations and Future Directions

While this study has contributed to understanding the utility of TC and LRAT in predicting the risk of teasing among youth, there are a few limitations to note. First, because this study uses secondary data, prediction of bullying victimization was limited to one form of bullying, verbal teasing. Previous research suggests that there are different forms of bullying, such as physical and non-physical (Olweus, 1993) or emotional. These types of bullying are characterized by different behaviors like hitting, kicking, tripping, stealing or destroying of property, rumor spreading, teasing and exclusion (Jeong et al., 2013). Furthermore, previous research also suggests that individual and situational characteristics shape the opportunity structure of offenses, which leads to variation in victimization risk. Though the current study attempts to refine our understanding of youth risk of bullying victimization by examining outcomes of different types of teasing, the results may not be applicable to other types of peer victimization, such as having one's property stolen or destroyed, or being kicked or punched.

To improve prediction of bullying risk using the current theoretical model, future studies should include more comprehensive measures of bullying. Measurement of bullying

victimization outcomes should reference how school policies define bullying, as well as how youth perceptions of bullying vary. Variation in youth perceptions of actions and behaviors that constitute bullying may lead to underreporting or overreporting of victimization incidents. Thus, researchers should consider a mixed methods approach that includes both survey questionnaires and qualitative interviews. In this way, studies could more reliably assess bullying experiences and the subjective appraisals of youth that may lead some to classify behaviors as bullying or not.

Second, the analysis conducted of the integrated theoretical model did not represent a complete test of the TC and LRAT paradigms. TC is composed of the target gratifiability, target vulnerability and target antagonism constructs (Finkelhor and Asdigian, 1996), while LRAT is made-up of exposure to motivated offenders, proximity to motivated offenders, guardianship and target attractiveness (Cohen et al., 1981; Meithe and Meier, 1990). Due to limitations of the data and analytic strategy, the current study was only able to estimate the effect of target vulnerability, target antagonism, exposure to motivated offenders and guardianship on youth risk of teasing outcomes. While the results demonstrate support for an TC-LRAT integrated theoretical model in understanding risk of teasing victimization among youth, it cannot rule out bias and potential for error. Thus, because the current study is only a partial test of the proposed integrated model, future research should include measures of all core theoretical constructs[5] to fully test the model.

[5] As mentioned in Chapter 2, the lifestyle-routine activity construct, target attractiveness, is replaced with measures of target congruence, which includes low self-control in the proposed integrated model.

Third, because the current study uses only one of the four waves of RSVP data, the analysis is considered cross-sectional and thereby is unable to establish temporal order. The inability of the current analysis to establish temporal order means that while the results suggest individual characteristics such as anxiety, introversion and low self-control increase youth risk of experiencing verbal teasing, we cannot be certain whether the effects are real or are the product of selection biases. Relatedly, teasing outcomes used in the analysis were created from survey items not bound by a time frame. In other words, the questions youth were asked about their teasing experiences were not limited to a specific period of time, such as the current school year or the last six months. To determine the exact nature of the relationship between measures of TC, LRAT and bullying victimization, researchers will need to use longitudinal data. Ideally, the outcome and predictor measures should be derived from survey questions that instruct respondents to limit their responses to a specific time frame.

Conclusion

Bullying victimization is a complex social issue whose consequences, continue to drive interest from researchers, government entities, educators, parents, mental health professionals, and advocacy groups alike. A growing body of criminological research has focused on using theory to guide the identification of factors that predict youth risk of being bullied by their peers. Many of these studies have touted the importance of refining our understanding of risk predictors to ensure the development of policies and prevention programs that effectively target bullying and other forms of peer victimization.

In a similar fashion, this study sought to determine the usefulness of an integrated theoretical model, which relies on lifestyle-routine activity and target congruence perspectives,

to predict youth risk of being teased. Results suggest that youth with specific personality traits like anxiousness, introversion and low self-control, have an elevated risk of being teased or are more likely to characterize verbal exchanges as teasing. These results are supported by ample empirical evidence which suggests that youth with emotional vulnerabilities may have difficulty navigating social interactions, as they may annoy other youth or do things deemed to be "weird" or not the norm (Kreiger, 2007; Maccoby, 1998, as cited in Harris, 2009). More recent research points to the potential of a new personality construct – tendency for interpersonal victimhood (TIV) - which impacts perception of experiences. Individuals with this trait tend to be more sensitive to interactions with others and tend to expect negative responses from their peers (Hameiri and Nadler, 2020).

The significance of personality traits in differentially shaping interpretation of social experiences for some youth raises implications for policy and prevention. Many bullying prevention efforts focus on identifying risk factors of bullying victimization to create "safer spaces" or environments that encourage reporting and intervention from teacher and peers. While these efforts do highlight concern for bullying, solely, they will not prevent youth, especially those with an elevated risk, from being teased by their peers. Moreover, these efforts will not eliminate the potential harms and consequences that result from incidents of bullying, such as verbal teasing. And for some, the old adage, "sticks and stones may break my bones, but words will never harm me" may easier said than done. For youth with an elevated risk of being teased, including those who frequently interpret social interactions with a negative lens, the result is likely to be cognitively and emotionally harmful.

Given the results presented here, future policy and prevention program efforts should continue to focus on the implementation of empirically supported intervention programs that

seek to build youth emotional resilience to teasing and other types of bullying and peer victimization within the context of a warm, inclusive environment (see Bosaki, Marini, & Dane, 2006; Knoff, 2007; San Antonio & Salzfass, 2007; Vreeman & Carroll, 2007; Whitted & Dupper, 2005 cited in Education Development Center, the Collaborative for Academic, Social, and Emotional Learning, and the American Institute for Research, 2009). Arguably, bullying and peer victimization prevention programs that follow a social and emotional learning (SEL) framework, have the ability to foster development of social and emotional skills among youth, as well as teachers. Intervention programs that follow the SEL framework focus on the development of the following key categories of social and emotional skills: (1) self-awareness, self-management, social awareness, (4) relationship skills and (5) responsible decision-making (Education Development Center, the Collaborative for Academic, Social, and Emotional Learning, and the American Institute for Research, 2009).

The first skill, self-awareness, is the ability for youth, as well as teachers, to "accurately assess one's feelings, interests, values, and strengths/abilities, [while] maintaining a well-grounded sense of self confidence" (p. 3). The second skill, self-management, is having the capacity to regulate emotions and behaviors – particularly impulses, set and monitor future academic and personal goals, and work towards overcoming obstacles. Social awareness, the third skill, is the ability to thoughtfully recognize and appreciate group similarities and differences, demonstrate empathy, and recognize and adhere to normative behaviors. The fourth key category, relationship skills, consist of the ability to build and maintain prosocial relationships and resolving conflict that occurs with peers and other interpersonal relationships. The last category or skill, responsible decision-making, is the capacity to make ethical decisions and consider consequences of actions and demonstrate respect for others and in both social and

academic environments. Essentially, have the ability to positively contribute to the well-being of the community and school environments (Education Development Center, the Collaborative for Academic, Social, and Emotional Learning, and the American Institute for Research, 2009).

In sum, teaching youth how to process and respond to incidents of teasing, by using tools such as cognitive scripts, may help to neutralize the consequences and harms of these experiences. Building emotional and cognitive resilience to bullying and teasing may help youth better navigate future verbal exchanges by providing them with the necessary tools to better understand those exchanges and to cope with the inevitable conflicts that await them in adulthood.

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Appendix A: Survey Items Used to Construct the Dependent and Independent Variables

Variables	Survey item and Cronbach's alpha	N	Missing %
Dependent Variables			
Bullying	Filter Question: Do you feel that you have been teased/picked on in a mean way because you are a member of a certain group?	3199 (total)	13
(Teasing)		1995 (no)	
Victimization		1204 (yes)	
	Contingent Questions: Have you been teased/picked on in a mean way because…		
	of your religion?	3151	1
	of your race?	3146	2
	people think you are gay or lesbian?	3142	2
	of your social class (because you are rich or poor)?	3151	1
	of your gender (being male or female)?	3146	2
	of your hometown or home country?	3149	2
	of a disability (mental or physical)?	3143	2
	of your look/appearance (hairstyle, clothes, weight, and so on)?	3177	1
	of your opinions?	3161	1
	of your speech (speech problem, accent)?	3145	2
	of your name?	3162	1
Independent Variables			
Target Vulnerability			
Anxiety	I have trouble getting my breath.	3601	9
	I have pains in my chest.	3602	9
	I get dizzy or faint feelings.	3600	9
	I feel restless and on edge.	3586	10
	My heart races or skips beats.	3592	9
	I'm jumpy.	3599	9
	My hands shake.	3599	9

(continued)

Variables	Survey item and Cronbach's alpha	N	Missing %
	I get shaky or jittery.	3593	9
	I feel strange, weird, or unreal.	3596	9
	My hands feel sweaty and cold.	3598	9
	I feel tense or uptight.	3608	9
	Cronbach's alpha: .90		
Emotional Vulnerability	I'm afraid that other kids will make fun of me.	3603	9
	I worry about what other people think of me.	3589	10
	I'm afraid other people will think I'm stupid.	3602	9
	I try to do things other people will like.	3599	9
	I worry about doing something stupid or embarrassing.	3596	9
	I worry about other people laughing at me.	3607	9
	Cronbach's alpha: .84		
Introversion	I try not to get called on in class.	3592	9
	I feel shy.	3604	9
	I don't like doing things in front of other people.	3608	9
	I don't like to speak in public.	3595	9
	Cronbach's alpha: .75		
Target Antagonism			
Low self-Control	I have trouble controlling my temper.	3609	9
	I have difficulty remaining seated at school.	3610	9
	When I am angry, I lose control over my actions.	3605	9
	I have difficulty keeping attention on tasks.	3602	9
	I get so frustrated that I feel like a bomb ready to explode.	3594	9
	Little things or distractions/interruptions throw me off.	3604	9
	I'm nervous or on edge.	3564	10
	I can't seem to stop moving.	3555	10
	I don't pay attention to what I'm doing.	3571	10
	I am afraid I will lose control of my feelings.	3561	10
	Cronbach's alpha: .90		

(continued)

Variables	Survey item and Cronbach's alpha	N	Missing %
Exposure to Motivated Offenders			
Individual	In the present school year, how often have you done any of the following…		
Delinquency	smoked cigarettes?	3626	9
	smoked cigars?	3630	9
	used spit tobacco?	3632	9
	drunk alcohol?	3627	9
	gotten drunk?	3627	9
	smoked marijuana?	3628	9
	used inhalants (huffing)?	3630	9
	used cocaine/crack?	3629	9
	used speed?	3630	9
	used crystal meth?	3624	9
	sold marijuana or other drugs?	3627	9
	skipped school?	3532	9
	forced someone at school to give up their money or property?	3627	9
	forced someone not at school to give up their money or property?	3630	9
	stolen someone's money or property at school when they were not around?	3629	9
	stolen someone's money or property not at school when they were not around?	3624	9
	physically attacked someone at school (punched, slapped, kicked)?	3616	9
	physically attacked someone not at school (punched, slapped, kicked)?	3621	9
	been suspended/expelled from school?	3527	9
	said unwelcome sexual remarks to someone at school?	3626	9
	said unwelcome sexual remarks to someone not at school?	3627	9
	touched someone in a sexual manner without their consent or against their will at school?	3630	9
	touched someone in a sexual manner without their consent or against their will not at school?	3628	9
	taken a BB gun to school?	3629	9
	taken a gun to school?	3627	9
	taken an explosive to school?	3624	9

(continued)

Variables	Survey item and Cronbach's alpha	N	Missing %
	taken another weapon to school (knife, brass knuckles, and so on, other than gun or explosive)?	3629	9
	used a gun during a fight?	3622	9
	used another weapon (knife, brass knuckles, and so on) during a fight?	3628	9
	gotten arrested?	3595	9
	driven after drinking?	3597	9
	run away from home?	3589	10
	vandalized public or private property (example: destroyed property, graffiti, and so on)?	3588	10
	Cronbach's alpha: .95		
Peer Delinquency Index	Thinking about your closest friends – How many of them have done any of the following things in the present school year?		
	smoked cigarettes daily for one week or more?	2528	36
	used smokeless tobacco daily for one week or more?	2749	31
	gotten drunk?	2574	35
	smoked marijuana?	2689	32
	used inhalants (huffing)?	2832	29
	used cocaine/crack?	2862	28
	cut school completely?	2708	32
	driven after drinking?	2853	28
	been suspended from school?	2580	35
	taken a gun to school?	2896	27
	taken an explosive to school?	2898	27
	taken a weapon to school (knife, brass knuckles, and so on, other than gun or explosive)?	2808	29
	gotten arrested?	2768	30
	sold marijuana or other drugs?	2830	29
	stolen someone's money or property when they were not around?	2767	30

(continued)

Variables	Survey item and Cronbach's alpha	N	Missing %
	physically attacked someone (example: punched, slapped, kicked)?	2610	39
	vandalized public or private property (example: destroyed property, graffiti, etc.)?	2714	32
Participation	During the school year, about how often do you take part in any of the following:		
School Sports	School sports (example: basketball, tennis, football, cheerleading – NOT P.E. class)	3645	8
Other activities	Other school activities (example: band, student government, yearbook, FHA)	3636	8
	Community activities (example: church, youth group, 4H, Boy/Girl Scouts)	3623	9
School	During a typical school day, it is easy for someone my age to get…		
Disorder	Cigarettes?	3620	9
	Alcohol?	3615	9
	Marijuana?	3609	9
	Inhalants (for "huffing")?	3608	9
	Cocaine/Crack?	3611	9
	A gun?	3614	9
	Cronbach's alpha: .89		
Guardianship			
Maternal	How often do the following things happen with your mother		
Attachment	(biological or adoptive mother only), even if your mother doesn't live with you?		
	My mother seems to understand me.	3654	8
	My mother makes rules that seem fair to me.	3652	8
	My mother knows where I am when I am away from home.	3651	8
	My mother knows who I am with when I am away from home.	3647	8
	My mother is concerned with how I am doing in school.	3651	8
	My mother helps me with my homework.	3640	8
	My mother talks to me about my report card.	3650	8
	My mother sets a time for me to be home at night.	3643	8
	My mother makes me feel wanted.	3628	9
	I share my thoughts and feelings with my mother.	3646	8
	I do things (example: watch TV, go to sports events, go to dinner, and so on) with my mother.	3649	8

(continued)

Variables	Survey item and Cronbach's alpha	N	Missing %
	I talk to my mother.	3601	9
	Cronbach's alpha: .88		
Paternal Attachment	How often do the following things happen with your father (biological or adoptive father only), even if your father doesn't live with you?		
	My father seems to understand me.	3577	10
	My father makes rules that seem fair to me.	3568	10
	My father knows where I am when I am away from home.	3566	10
	My father knows who I am with when I am away from home.	3568	10
	My father is concerned with how I am doing in school.	3566	10
	My father helps me with my homework.	3568	10
	My father talks to me about my report card.	3568	10
	My father sets a time for me to be home at night.	3553	10
	My father makes me feel wanted.	3558	10
	I share my thoughts and feelings with my father.	3558	10
	I do things (example: watch TV, go to sports events, go to dinner, and so on) with my father.	3563	10
	I talk to my father.	3568	10
	Cronbach's alpha: .94		
Peer Attachment	Think of those people you consider your closest friend(s). How strongly do you agree or disagree with the following statements?		
	I respect the opinions of my closest friend(s).	3606	9
	My best friend(s) would stick by me if I got in trouble.	3604	9
	The people I think of as my best friend(s) also think of me as a best friend.	3597	9
	I fit in well with my best friend(s).	3600	9
	My best friend(s) take an interest in my problems.	3599	9
	I take an interest in the problems of my closest friend(s).	3597	9
	Cronbach's alpha: .90		

(continued)

Variables	Survey item and Cronbach's alpha	N	Missing %
School Attachment	How strongly do you agree or disagree with the following statements about your school?		
	Most of my teachers are not interested in anything I say or do.	3645	8
	Most of my classes are a waste of time.	3641	8
	I would quit school now if I could.	3642	8
	I care a lot what my teachers think me.	3651	8
	Getting an education is important to me.	3644	8
	I look forward to coming to school most mornings.	3625	9
	Cronbach's alpha: .70		
Rule Fairness	How strongly do you agree or disagree with the following statements about your school?		
	All students are treated fairly.	3625	9
	The school rules are fair.	3620	9
	The punishment for breaking school rules is the same for all students no matter who you are.	3644	8
	The teachers are fair.	3621	9
	The principal is fair.	3625	9
	Cronbach's alpha: .76		
Control Variables			
School Change	How many times have you changed schools during this school year?	3678	7
School Failure	Which of the following best describes your overall grade average?	3632	8
Gender	What is your sex?	3678	7
Race	How do you describe yourself?	3676	7
SES	How far did your mother (or female guardian) go in school?	3076	22
	How far did your father (or male guardian) go in school?	2833	29
	Cronbach's alpha: .71		

Appendix B: Goodness of Fit Comparison of Poisson and Negative Binomial Regression Models for Measurement of Teasing Experiences Index

Model	Link	Deviance	X^2	X^2/df	AIC	BIC
Poisson	Log	4635.63	5336.47	2.41	6916.70	7025.20
Negative Binomial	Log	2501.34	2905.50	1.31	5904.05	6012.60

Note: AIC = Akiake's information criterion; BIC = Bayesian information criterion