University of Cincinnati

Date: 4/5/2019

I, SooHyun O, hereby submit this original work as part of the requirements for the degree of Doctor of Philosophy in Criminal Justice.

It is entitled:

Street Codes and School Victimization:
Analyses of U.S. and South Korean Students

Student's name: **SooHyun O**

This work and its defense approved by:

Committee chair: Pamela Wilcox, Ph.D.

Committee member: John Eck, Ph.D.

Committee member: Bonnie Fisher, Ph.D.

Committee member: Christopher Schreck, Ph.D.

32963

Street Codes and School Victimization: Analyses of U.S. and South Korean Students

A Dissertation Submitted to the
Graduate School of the University of Cincinnati

In Partial Fulfillment of the
Requirements for the Degree of

Doctor of Philosophy (Ph.D.)

In the School of Criminal Justice
of the College of Education, Criminal Justice, and Human Services

2019

By

SooHyun O

B.Ed. Korea University, Seoul, 2005

M.S. University of Cincinnati, 2014

Dissertation Committee:

Pamela Wilcox, Ph.D. (Chair)

John E. Eck, Ph.D.

Bonnie S. Fisher, Ph.D.

Christopher J. Schreck, Ph.D.

ABSTRACT

Extending the work of Anderson (1999), this dissertation explores the effects of adherence to street codes on school-based violent victimization. In considering the effects of street codes on the risk of adolescent school-based violent victimization, this research separates street values into the two distinct orientations: 1) adherence to retaliatory norms, and 2) adherence to general toughness norms and it suggests that these two distinct orientations might exhibit opposite direct effects on victimization—particularly repeated victimization. Further, this dissertation assesses whether both types of street codes are positively, indirectly related to the frequency of violent victimization through risky (deviant) lifestyles, though such indirect effects are hypothesized to be especially pronounced for general toughness norms versus retaliatory norms. These various direct and indirect effects are examined using two sources of data—one from students in schools in the U.S. and the other from students in schools in South Korea. More specifically, the data consists of 11,749 students from 115 schools in Kentucky, U.S. and 12,453 students from schools across South Korea. The direct relationships are examined using (1) Negative Binomial Hurdle models (NBLH) with the U.S. sample and (2) logit models with the Korean sample. The indirect relationships are examined using Structural Equation Modeling (SEM) with the U.S. sample only. Findings from the analyses support hypotheses suggesting that two dimensions of the street codes have distinct direct effects on school-based violent victimization in both the U.S. and Korean samples, and these distinct effects make sense through the lens of target congruence theory. Further, findings support hypotheses suggesting that these two dimensions of the code have indirect effects that vary in magnitude, and these effects are consistent with the logic of lifestyle-routine activities theory. Limitations of the data and methods used are discussed, as well as, directions for future research.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ..... **v**

CHAPTER 1: INTRODUCTION **1**

THE CORRELATES OF SCHOOL-BASED VIOLENT VICTIMIZATION 2

THE PRESENT STUDY 6

OVERVIEW OF CHAPTERS TO FOLLOW 7

CHAPTER 2: THEORETICAL BACKGROUND **9**

CODE OF THE STREET 9

RETALIATORY NORMS VERSUS GENERAL TOUGHNESS NORMS 13

RETALIATORY AND GENERAL TOUGHNESS NORMS: IMPLICATION FOR VICTIMIZATION 16

Retaliatory Norms as Target Invulnerability 17

General Toughness Norms as Target Antagonism 18

Retaliatory Norms, General Toughness Norms, and Risky Lifestyle 19

Does the Measure of Victimization Matter? Likelihood versus Frequency 21

Does National Context Matter? The U.S. versus South Korea 21

PREVIOUS RESEARCH 22

The Code of the Street and Victimization 22

Indirect Effects of Norms through Risky Lifestyle 29

MOVING THE LITERATURE FORWARD 39

The Present Study's Contributions 39

Research Questions/ Hypotheses 40

CHAPTER 3: METHODS **42**

DATA: U.S. SCHOOL STUDENTS 44

Measures: Dependent Variables 45

Measures: Individual Independent Variables 47

DATA: SOUTH KOREAN SCHOOL STUDENTS 51

Measures: Dependent Variables 52

Measures: Individual Independent Variables 53

ANALYTIC STRATEGY 55

Direct Effects Using the U.S. and South Korean Data 55

Indirect Effects through Risky Lifestyles Using the U.S. Data 57

CHAPTER 4: RESULTS 59
BIVARIATE ANALYSES 60
U.S. Sample 60
Korea Sample 63
MULTIVARIATE ANALYSES 65
Likelihood and Frequency of Victimization among U.S. Sample 65
Supplemental Analysis of Violent Victimization in U.S. Sample 69
Likelihood of Victimization among Korean Sample 72
Indirect Effects through Risky Lifestyles Using the U.S. Sample 74
Supplemental Analysis of Indirect Effects on Violent Victimization 77
Summary 80
CHAPTER 5: DISCUSSION AND CONCLUSION 82
DIRECT EFFECTS OF STREET CODES: U.S. SAMPLE 82
DIRECT EFFECTS OF STREET CODES: SOUTH KOREAN SAMPLE 85
INDIRECT EFFECTS OF STREET CODES: U.S. SAMPLE 86
IMPLICATIONS FOR THEORY AND PRACTICE 89
Implications for Theory 89
Implications for Policy and Practice 94
LIMITATIONS OF STUDY AND DIRECTIONS FOR FUTURE RESEARCH 95
Generalizability of the findings 95
Measurement of victimization 96
Intra-individual change of RNs, GTNs, and violent victimization across waves 97
CONCLUSION 98
REFERENCES 99
Appendix A. Survey Items Used to Construct the Dependent and Independent Variables. 111
Appendix B. Survey Items in South Korea Data Used to Construct the Dependent and Independent Variables. 114
Appendix C. Model Specification Flow-chart 116
Appendix D. Correlation Coefficient Estimate for CFA with One Factor and Two Factor 117
Appendix E. Correlation Coefficient Estimate for Figure 1 (*N*=11,749) 118

ACKNOWLEDGEMENTS

I began working on my dissertation in the summer 2017 after I moved to Colorado Springs and have completed it in May 2019. For the last two years, Dr. Pamela Wilcox, my academic adviser, continuously inspired, advised, encouraged, and supported me. As my mentor, you walked with me along the long way, and with you, the journey of compeleting this dissertation has been full of joy. Whenever I thought of you working on my dissertation, I felt so grateful to you that tears often rolled down my cheeks. I have learned so many things from you for the last five years—not only in terms of conducting better research but also about the scholarly mindset and attitude. Thanks to you, I now have a goal of becoming a better person, a better scholar, and a better teacher. Thank you for listening to me whenever I need you, thank you for crying with me, thank you for giving me the strength to move forward, and thank you for being my academic mother. Thank you so much, Dr. Wilcox!

I would also like to offer my gratitude to my committee members for their constructive comments and suggestions on my dissertation. Thanks Dr. Eck for your guidance and witty lessons regarding research and life—you have the best laughter and it always cheers me up. Thank you, Dr. Fisher, for your continued support and kindness, and meticulous feedback on my dissertation—you always provide the warmest support to me and to my family. Thank you, Dr. Schreck. I am very grateful that I had the opportunity to work with you and learned different perspectives from you. I look forward to us working together in the future.

I also should thank all the faculty that have taught and advised me over the past five years. I am also grateful to Jean Gary, Janice Miller, Erin Cochran, and John Schwartz for their help and support. I have been also very lucky that I have met many wonderful people, especially my cohort, while completing my degree.

Many thanks also should go to my family. I want to thank my husband, YongJei, for being a lifelong best friend and a sincere colleague. YongJei, thank you for supporting me over the last five years in many ways. Whenever I felt down, you listened to me, cooked for me, took a walk with me, and played StarCraft/Nintendo with me. You are the best. I must also thank my sweatest daughter, YooJeong—you have been my best study buddy and audience in my presentations since you were very little. Your smile has been the best support for me and I love you so much! Last but not the least, dad, thank you and I miss you. I know how much you would be proud of me in heaven. Finally, thanks God for leading me where I am.

CHAPTER 1: INTRODUCTION

This dissertation explores the effects of adherence to street codes (Anderson, 1999) on school-based violent victimization using data on adolescents in the U.S. as well as data on students in South Korea. Schools are microcosms of society and, as such, they host a good deal of crime experienced by juveniles. Specifically, schools are high-traffic places of daily activity for adolescents, who can serve as both motivated offenders and suitable targets. Thus, schools can generate crime as a byproduct of the legitimate activities they host (Bowers, 2014; Brantingham & Brantingham, 1995; Weisburd, Morris, & Groff, 2009), and a small portion of students can become persistent victims of school crime (Graham & Juvonen, 1998; Perry, Perry, & Kennedy, 1992; Smith, 1991; Tillyer, Wilcox, & Fissel, 2018).

Examination of data from the United States indicates that, overall, students report experiencing more victimization at school rather than away from school. For example, Musu-Gillette, Zhang, Wang, Zhang, & Oudekerk (2018) report recent data from the National Crime Victimization Survey indicating that students age 12 to 18 experienced more theft and violent victimization at school (for males, 31 per 1,000 students; for females, 35 per 1,000 students) than away from school (22 per 1,000 students for both males and females). When "serious" violent victimization only was considered (rape, sexual assault, robbery, and aggravated assault) the rates of victimization at school and away from school were the same (4 serious violent victimizations per 1,0000 students).

Victimization at school among children and adolescents is an important social issue in South Korea as well, though data collection on the issue is not as complete as it is in the United States. School victimization research in Korea has focused on bullying in particular, as several students committed suicide due to persistent physical and emotional victimization by peers at

school (Kwon, 1999). It is also viewed as one of the most common types of school victimization (Kim, Koh, & Levelthal, 2005). Bullying is defined as repeated aggressions against someone with less power (Olweus, 1993). Aggressions include physical and verbal violence, but also social exclusion by classmates and peers (Hong & Eamon, 2009). The National School Victimization Survey in Korea reported that in 2017, the rate of total bullying victimization including verbal and physical violence and group exclusion for students ages 12-18 was 5 victimizations per 1,000 students (Ministry of Education in South Korea, 2017).

Beyond the obvious interference with the academic achievement of all students (Juvonen, Nishna, & Graham, 2000; Schwartz, 2000), a great deal of evidence shows that school victimization can have profound effects on the mental and physical health of both victims and offenders. These effects include depression, anxiety, school phobia, and feelings of insecurity—effects that, in turn, appear to increase the risk of maladaptive behavior problems, low self-esteem and loneliness, and suicide across different cultural and national groups (Boivin, Hymel, & Bukowski, 1995; Boulton & Smith, 1994; Boulton & Underwood, 1992; Brain, 1997; Han, 2002; Hodges & Perry, 1999; Rigby, 1998; Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1998). Therefore, understanding ways to tackle victimization at school property is, rightfully, a public concern.

THE CORRELATES OF SCHOOL-BASED VIOLENT VICTIMIZATION

Typically using data from the U.S., previous studies have discussed multiple correlates of the likelihood of experiencing school-based victimization. Especially prevalent are studies supporting correlates aligned with opportunity-based victimology theories, including target congruence theory and lifestyle-routine activity theory (L-RAT). For example, there is ample evidence that individual impulsiveness (a presumed indicator of target antagonism) is positively

correlated with students' risk of violent victimization (Augustine, Wilcox, Ousey, & Clayton, 2002; Schreck, Stewart, & Fisher, 2006;Tillyer, Fisher, & Wilcox, 2011). Further, Schreck et al. (2006) asserted that individual attributes such as impulsivity or low self-control might also trigger risky lifestyles and thus *indirectly* increase the risk of victimization.

In terms of risky lifestyle, numerous studies have found that youth who are involved in serious delinquency and aggressive activities are more likely to be victims of school assault (Augustine et al., 2002; Burrow & Apel, 2008; Wilcox, Tillyer, & Fisher, 2009; Zaykowski & Gunter, 2011). Beyond deviant lifestyles, studies also suggest that even involvement in legitimate school activities, such as extracurricular athletics and clubs, increases the odds of victimization in the school setting (Tillyer, Gialopsos, & Wilcox, 2016; Welsh, 2001). The typical interpretation for this finding is that even conventional extracurricular activities expose students to potential offenders in settings with diminished guardianship.

Along the same lines, spending more time with delinquent peers is expected to provide greater exposure to motivated offenders, and such delinquent peer association does correspond with a heightened risk of victimization (Schreck & Fisher, 2004; Schreck, Miller, & Gibson, 2003; Schreck et al., 2006). In contrast, strong social bonds to school, teachers, and administrators are typically inversely related with victimization at school, perhaps because strong social bonds are indicative of strong potential guardianship (Burrow & Apel, 2008; Schreck et al., 2003, 2004; Wilcox et al., 2009).

Most previous studies of school victimization, highlighting target congruence and lifestyles-routine activities, explain the likelihood of any victimization rather than the *frequency* of victimization at school. However, a handful of studies reported that certain behavioral patterns were strongly related with the frequency of physical and verbal victimization at school

and thus potentially contribute to chronic peer victimization (Graham & Juvonen, 1998; Hodges, Malone, & Perry, 1997; Olweus, 1978; Perry et al., 1992; Perry, Kusel, &Perry, 1988; Perry, Williard, &Perry, 1990; Schwartz, Dodge, & Coie, 1993; Tillyer et al., 2016, 2018). For example, some studies found that kids displaying aggressive behaviors (i.e., starting fights, hitting, pushing or teasing other kids) were more likely to be chronic victims (Hodges et al., 1997; Olweus, 1978; Perry et al., 1988; Perry et al., 1992). Similarly, studies have argued that submissive behaviors (i.e., relinquishing objects or status/position) were positively related to persistent victimization at school (Perry et al., 1990; Schwartz et al., 1993; Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1999). Specifically, based on observation of the social interactions of African-American 6 to 8-year-old boys who emerged as chronic victims, Schwartz et al. (1993) explained that children with submissive behaviors were viewed as easy marks by their aggressive peers and vulnerable targets for future victimization.

Despite a very limited number of studies compared to those based on data from the U.S., findings from school victimization research in South Korea are quite consistent. Studies have shown that measures of risky lifestyle, such as engaging in criminal offending and associating with delinquent peers, are positively associated with the risk of student victimization (Jung & Park, 2010; Noh, 2007; Noh & Lee, 2003). Further, submissiveness and aggression were found to be related to the frequency of repeat victimization at school, thus showing results consistent with U.S. studies, despite the different cultural setting (Schwartz, Chang, & Farver, 2001; Schwartz, Farver, Chang, & Lee-Shin, 2002). In a specific example, using the data from 122 students recruited from a primary school in Seoul, South Korea, Schwartz et al. (2001) examined how submissive-withdrawn behaviors such as *crying or withdrawing when teased or threatened*, and aggressive behaviors such as *starting fights, hitting or pushing other kids, or using force to*

obtain other children's possessions were associated with frequency of victimizations such as *being hit, pushed, picked or teased by other kids at schools*. In addition to these overt behavioral measures tapping physical and verbal victimization, their outcome measures also included multiple subtypes of peer victimization such as *indirect and relational victimization tapping the exclusion from the peer group*. The authors found that these submissive and aggressive behaviors were both positively associated with chronic victimization at school, controlling for other variables such as academic functioning, and psychosocial adjustment variables. Using similar measures and structural equation modeling (SEM), Schwartz et al. (2001) found consistent results using data on approximately 300 students from another East Asian nation, China.

Should the consistent findings to date across U.S. and Asian studies of student victimization be considered surprising? On the one hand, perhaps so. East Asian countries have a collectivist orientation inherited from Confucian teachings, and this orientation is often considered to be opposite from the individualism seen in Western societies (Park & Cho, 1995; Schwartz et al., 2001; Triandis, 1995). South Korea emphasizes group awareness over individual concerns, group harmony, and the minimization of interpersonal conflict (Cha, 1994; Farver, Kim, & Lee-Shin, 2000; Rubin, Hemphill, Chen, Hastings, Sanson, Coco, Zappulla, Chung, Park, Doh, Chen, Sun, Yoon, & Cui, 2006). In this setting, displaying shy, quiet or hesitant behavioral tendencies is positively evaluated and reinforced through praise from parents and teachers (Chen, 2000; Chen & Rubin, 1992). On the other hand, it is particularly interesting that even with this cultural uniqueness, studies have found that submissive-withdrawn and aggressive behaviors to be associated with the *enhanced* risk of chronic victimization in South Korea. South Korea has seen a rapid expansion of its economy and the growing influence of

Western culture, so it is also understandable that student victimization in South Korea might be related to social and cultural forces similar to those in Western countries. Accordingly, this dissertation poses the question as to whether the historical cultural difference between the U.S. and South Korea would bring about different findings across U.S. and Korean samples, or alternatively whether similarities between the contemporary U.S. and Korean context would bring about similarities in findings across U.S. and Korean samples. This dissertation will be able to address this question by comparing the results from both countries (including univariate descriptive statistics as well as findings from multivariate analyses).

In short, while the evidence to date is slim, studies suggest that the effects of indicators of target congruence and risky lifestyles-routine activities on victimization are similar across U.S. and South Korean student samples. This dissertation will further address the generalizability of student victimization correlates across cultural contexts by examining an under-studied correlate – street codes—on both a U.S. sample and a South Korean sample.

THE PRESENT STUDY

To summarize, growing public concerns over general school safety has generated a good deal of recent scholarship examining school victimization, with much of the work framed around target congruence theory (Finkelhor & Asidigian, 1996) and risky lifestyle theory (Cohen, Kluegel, & Land, 1981). However, most of this work emphasizes measures of target congruence and L-RAT such as low self-control, aggressive or deviant behavior, delinquent peer associations, and extracurricular activities. In contrast, very few studies have explored the effects of adherence to street codes in the examination of school victimization despite the fact that Anderson's (1999) ethnographic study suggests that adherence to such codes might be related to school violent victimization—both through target congruence and risky lifestyle

mechanisms (for an exception see Schreck, Ousey, Fisher, & Wilcox, 2012).

Thus, using data from both the U.S. and South Korean school students, this dissertation seeks to better understand whether and how adherence to a set of values overlapping with the code of the street relates to violent victimization. First, the research reported here separates street values into the two distinct street code orientations: (1) adherence to retaliatory norms, and (2) adherence to norms embracing "toughness" more generally. Consistent with Anderson's (1999) claim, this dissertation suggests how these two distinct orientations might be differentially *directly* related to violent victimization at school using target congruence theory (Finkelhor & Asidigian, 1996). Additionally, this dissertation examines the effects of commitment to these types of norms not only on the likelihood of violent victimization but also on the frequency of repeat violent victimization based on the hypothesis that retaliatory norms, in particular, might affect repeat victimization more than any victimization. It also suggests that both types of norms should exert *indirect* positive effects on violent victimization through risky lifestyles (Cohen et al., 1981). All of these various direct and indirect effects are examined using two sources of data—one from students in schools in the U.S. and the other from students in schools in South Korea. More specifically, direct relationships are examined using (1) Negative Binomial Hurdle models (NBLH) with data from nearly 11,749 students from 115 schools in Kentucky, U.S. and (2) logit models with data from nearly 12,453 students from schools across South Korea. Further, indirect relationships are examined using the Structural Equation Modeling (SEM) with the U.S. sample.

OVERVIEW OF CHAPTERS TO FOLLOW

This dissertation has four chapters to follow. Chapter 2 introduces two types of norms that are part of the "code of the street" (Anderson, 1999) and explains how two distinct norms

are expected to be *directly* and *indirectly* related to violent victimization by drawing upon target congruence theory (Finkelhor & Asdigian, 1996) and L-RAT (Cohen et al., 1981). Chapter 2 also reviews previous studies relevant to the street code-victimization relationship, and it presents the study hypotheses intended to extend the current literature. Chapter 3 describes the two data sources as well as the measures and analytic strategies used for testing the research hypotheses. Chapter 4 presents the results of these analyses and, in Chapter 5, these results are summarized, synthesized with previous work, and discussed in terms of theoretical and practical implications. In addition, Chapter 5 provides a discussion of the limitations of the research, and suggestions for future studies on student violent victimization regarding street values are offered.

CHAPTER 2: THEORETICAL BACKGROUND

This chapter reviews the literature on the code of the street in detail and explains how street values can be applied to the school environment in order to explain the likelihood and frequency of student violent victimization at schools. In particular, this chapter will explore the idea that there are two distinct types of norms that are part of Anderson's (1999) "code of the street"—*retaliatory norms* (*RNs*) and *general toughness norms* (*GTNs*). This chapter then explains how these two types of norms might be differentially *directly* related to violent victimization from the lens of target congruence theory. Specifically, this chapter provides the argument that RNs indicate target invulnerability and would, therefore, *reduce* the likelihood of victimization—particularly repeated victimization. In contrast, GTNs indicate target antagonism, and thus adherence to such norms should *increase* the likelihood and frequency of victimization. Finally, the chapter explains that both of these types of norms (RNs and GTNs) should exert *indirect* positive effects on violent victimization through risky lifestyles. That is, both types of norms are posited to be positively associated with a deviant lifestyle which, in turn, should increase the frequency of victimization. Beyond discussing the theoretical framework for understanding these complex direct and indirect effects of RNs and GTNs on violent victimization, this chapter also reviews previous research regarding these effects.

CODE OF THE STREET

In his ethnographic work in inner-city Philadelphia, Elijah Anderson (1999) argued that in structurally disadvantaged African American neighborhoods—where people suffer from persistent poverty, family disruption, and social isolation—there exist norms that are often opposed to mainstream values. Quite simply, Anderson described how the adoption of a "code

of the street" springs from desperate circumstances. The community he observed lacked jobs that payed a living wage and basic public services such as trash pickup, lighting, and building maintenance. As an adaptation to such disadvantage, Anderson suggested that many people adopted the "code of the street," which he described as a set of informal rules that emphasized retribution when disrespected as well as general toughness and sexual prowess as means for earning respect. Such respect was described as a predominant form of capital in the community, where avenues for achieving respect in "traditional" ways (e.g., educational attainment, high-status employment) were in short supply. Further, Anderson explained that the community's deep-seated mistrust of and alienation from the police made it necessary for residents to adopt the code of the street as a means of social control—for self-protection and survival.

Anderson (1999) thus described how the code served to shape interpersonal interactions in disadvantaged neighborhoods. Yet, Anderson also recognized that the degree to which the residents in such neighborhoods were detached from mainstream society varied. In short, Anderson described individual variation in the adoption of the code. According to Anderson, there are two orientations—"decent" and "street"—that exist within neighborhoods like those he observed. In "street families" parents "may aggressively socialize their children into it [the code]in a normative way" (p. 45). Thus, in street families, young people are particularly vulnerable to becoming completely committed to the code of the street—to internalizing the values reflected in the code. Noting that there are degrees of alienation from mainstream values among poor inner-city neighborhoods, Anderson introduced "decent families" as an opposing pole of orientation in comparison to street families. Decent families were oriented more toward "decency and civility" (p. 36). According to Anderson (1999), most residents in this community he observed were decent and they appreciated mainstream values. In turn, their child-rearing

practices instilled these values in their children, and children in decent families thus learned to respect authority and display non-violent behaviors.

However, street families and decent families coexisted in very close proximity, so decent families also had to encourage their children to take care of themselves when challenged. Regarding this issue, Anderson (1999) argued that some parents in decent families encouraged their children to avoid trouble by talking and walking away from those who were aggressive toward them as a tactic to avoid physical fighting. On the other hand, knowing that "turning the other cheek" was not always a winning strategy, many decent parents encouraged their children to stand their ground so that they were not targeted repeatedly for victimization. In other words, decent families would often encourage their children to situationally adopt the code and display toughness and aggression for self-protective purposes. Anderson described this temporary display as "code-switching" on the part of decent individuals, and he implied that "code-switching" from decent to street was sometimes necessary for the survival. Importantly, though decent individuals sometimes displayed behavior consistent with the code of street through code-switching, the decent person was not completely inclined to physical aggression. Rather, decent people tended to condone defensive or retaliatory violence *situationally*—as an appropriate response to a personal attack or threat thereof. Overall, Anderson (1999) argued that the *dynamics of the code* (whether it was internalized or used only situationally) might depend on the *dynamics of these families*.

Anderson (1999) also conveyed that the dynamics of the code exist not only on the disadvantaged street but also in the inner-city school setting, as "school becomes a primary staging area for the campaign for respect." This staging area is where students, in essence, practice their street values in interactions with one another. For example, it is the school setting

where the most deprived kids—those who are likely most committed to the street values—might try to gain respect by putting peers down with verbal harassment and physical violence (Anderson, 1999; see also Brunson & Miller, 2009; Miller, 2008; Swartz, 2012; Swartz, Wilcox, & Ousey, 2017). As one of the students interviewed by Brunson and Miller (2009, p.197) indicated, violence at school often stemmed from "like who runs it, like you know, who's dominant between everybody." Similarly, another student suggested, "it's like a showcase here, you know, a lot of people, they just want people to watch 'em…[so] they try to make theyself look hard" (Brunson & Miller, 2009, p.197). And, just like on the street, a student should not show fear to someone who wants to mess with her/him in the school's "staging area." Rather, this situation requires one to take the retaliatory action against the aggressor in order to show invulnerability and deter continued victimization. In this regard, Brunson and Miller's (2009, p.197) interviewees indicated that student bystanders often amp up conflicts between classmates by clearly expressing expectations for retaliation when hit: "people will start crowding around…[egg] stuff on" … "cheer [it] on. Be like, 'man, you let him whoop you like that? Get up and hit him back!" In sum, based on Anderson (1999)'s claims as well as support from subsequent qualitative research, the informal rules of the street also permeate schools, and adherence to the code can thus affect student behavior and experiences in the school setting. In fact, limited previous quantitative research has also indicated that adherence to street codes is relevant for understanding school-based offending and victimization among students in schools, including those beyond the inner city (Felson, Liska, South, &McNulty, 1994; Ousey & Wilcox, 2005; Schreck et al., 2012; Swartz et al., 2017).

RETALIATORY NORMS VERSUS GENERAL TOUGHNESS NORMS

The present study is based around the claim that Anderson (1999) implicitly discussed two distinct types of street values in his ethnographic study—what I will refer to throughout this dissertation as retaliatory norms and general toughness norms. Further, these two types of street values have two differentiating functions regarding the risk of violent victimization, as will be discussed in detail below.

First, as alluded to above, one aspect of the code involves retaliatory norms (RNs), which largely serve the purpose of self-protection against repeated victimization. Through "payback" one sends a message that one is not to be messed with further, presumably increasing invulnerability to further attack. In contrast, Anderson describes that one who fails to react to attackers when challenged receives little to no respect and gains the reputation of a "chump." "who most often gets picked on, tried or tested, and become victims of robbery and gratuitous violence" (p. 131). This implies that failure to embrace RNs leaves one vulnerable to being victimized repeatedly. Thus, the code prescribes that one should respond with retaliation to deter further offenses. Quite simply, when someone hits you, you should pay back. In fact, reaction to initial victimization is presumed to help offenders identify victims who are likely to resist or not (Felson & Clarke, 1998: Kennedy & Baron, 1993).

In addition to retaliatory norms, with their self-protective function, Anderson (1999) also discusses "general toughness norms" (GTNs) as another aspect of the code of the street. According to Anderson, youths—particularly those in street families—learn generally aggressive ways through the observation of hostility and violence on the part of adults. Further, he explained that adolescents everywhere are insecure and trying to establish their identities, but in poor inner-city neighborhoods, youths have very limited ways to establish them. Accordingly,

compared to adolescents from the middle and upper classes, or even compared to decent adolescents in disadvantaged contexts, displays of aggression, toughness and sexual prowess are fairly common ways to assert oneself in the "campaign for respect" (Anderson, 1999, p. 68). These deviant behaviors are only reinforced by peers as respect is won.

Thus, drawing from Anderson's (1999) work, it seems that there are subtle but potentially important differences between RNs and GTNs within the code of the street—not only in terms of the content of the norms but when and how they are used. Specifically, the adoption of RNs is potentially more situational than the adoption of GTNs. For example, one might approve of the norm of fighting to defend oneself from future victimizations (i.e., supportive of defensive or retaliatory violence), but might not approve of more indiscriminate aggression. This sort of scenario aligns with Anderson's description of "decent" individuals who must sometime code switch and express retaliatory norms for self-protection. On the other hand, those who adopt GTNs are potentially more deeply committed to displays of toughness and aggression as a general way of life—as an underlying part of social identity. This scenario aligns with Anderson's description of "street" individuals who internalize the general value of aggressiveness.

The idea that there are these two types of norms that are part of the code of the street is supported by other work besides that of Anderson. For example, a study of violence among ex-offenders and the general population by Markowitz and Felson (1998) introduced two distinct types of attitudes as part of a street subculture—"attitudes toward retribution" and "attitudes toward courage". They argued that these two street orientations should be distinguished as they are subtly, yet importantly different. Specifically, they argued that attitudes toward retribution were used as an act of justice in an attempt to deter future victimization. In contrast, attitudes

toward courage were likely to be practiced to gain respect and protect one's social identity. Thus, their description was quite consistent with RNs and GTNs described above as implicit in Anderson's work (Markowitz & Felson,1998; Tedeschi & Felson, 1994).

In another example, Agnew (1994) argued that measures of general approval of violence should be distinguished from measures of approval of retaliatory violence. Specifically, Agnew (1994) argued that to evaluate if someone approved of violence generally (more akin to GTNs in this dissertation), survey items should ask if respondents generally approve of violence, without any particular reason or provocation. In contrast, he argued that to evaluate the approval of retaliatory violence (similar to RNs in this dissertation), survey items asking whether respondents approve of physical violence in certain circumstances (e.g., self-defense) are most appropriate. Accordingly, in his study, he separated survey items tapping approval of general violence *("How wrong it is for someone your age to hit or threaten to hit someone without any reason"*) from survey items tapping conditional approval of retaliatory violence *("Is it alright to beat up people if they started the fight or if they call your names"*). Descriptive statistics using the sample from the National Youth Survey in Agnew (1994)'s study showed that very few respondents agreed with norms supporting general violence whereas 39 % of respondents agreed with situational retaliation. Such disparity supports the idea that these two types of norms should be distinguished.

In a final example, a study of teacher victimization by O and Wilcox (2018) indicated that survey items related to school-level street codes loaded on two different factors without cross loading. Specifically, the authors used a principal-components factor analysis to assess the number of dimensions across the eight items tapping the prevalence of deviance-supportive norms in schools. Using Varimax rotation with Kaiser normalization, results suggested two

components and the eigenvalues for both were larger than one. Accordingly, those norms were split into two measures—retaliatory norms and general violent norms. Two items appeared to tap retaliatory norms, including an item asking respondents if "*it is alright to beat up another person if he/she started the fight."* Six items loaded on the general violent norms factor; an example is an item asking respondents their agreement with the following: "*in order to gain respect from your friends, it is sometimes necessary to beat up on other kids."* In their study, the two distinct norms were different in terms of the direction of their effects on teacher victimization, though both were non-significant.

RETALIATORY AND GENERAL TOUGHNESS NORMS: IMPLICATION FOR VICTIMIZATION

The two distinct norms in the code of the street identified above—RNs and GTNs—might be differently directly related to victimization. Specifically, Anderson (1999) implies retaliatory norms might decrease the risk of victimization whereas adherence to general toughness norms might increase the risk of victimization. These different effects make sense when viewed within the framework of target congruence theory (Finkelhor & Asdigian, 1996).

In *target congruence* theory, Finkelhor and Asdigian (1996) argued that personal attributes congruent with offender motivations can affect target suitability. In particular, Finkelhor and Asdigian offered that target congruence had three dimensions: target *vulnerability*, target *gratifiability*, and *target antagonism*. First, individuals may be vulnerable due to personal attributes such as physical size/stature and limited physical strength (which, in turn, can be related to physical attributes such as age and gender). Likewise, emotional/psychological attributes can also present target vulnerability. Previous research has indicated that fearful and submissive behavioral patterns are positively related to victimization by others (O & Wilcox,

2018; Schwartz et al., 1993).

Personal attributes might also affect a victim's gratifiability, which refers to the extent to which a target satisfies the needs of an offender. For instance, "female" is an attribute that is gratifiable to a heterosexual male sex offender (McCormack, Janus, & Burgess, 1986). Further, those involved in the street life are gratifiable to many robbers, as they are expected to be less likely to call police when victimized thus more likely to forego the loss of money, drugs, property, and so on.

Third, some individual attributes "antagonize" offenders—that is, they ignite anger, jealousy, or impulses in offenders, perhaps due to bias on the part of the offenders. For example, being gay might be an attribute that serves to antagonize those with an anti-homosexuality bias; being of Middle-Eastern decent might serve to antagonize those with an ethnic or religious bias. Additionally, personal attributes can antagonize offenders because they present noxious stimuli that have nothing to do with offender biases. For instance, individuals with low self-control often elicit negative reactions from their peers (i.e., they antagonize others). Specifically, one with low self-control becomes a suitable target as his/her belligerence, short temper, and impulsiveness might cause outrage from others, and he/she is thus more likely to be a victim of violent and property crime (Augustine et al., 2002; Deryol, Wilcox, & Dolu, 2017; Schreck, 1999; Schreck et al., 2006; Turanovic & Pratt, 2014; Turanovic, Reisig, & Pratt, 2015; Wilcox et al., 2009).

Retaliatory Norms as Target Invulnerability

Anderson's description of retaliatory norms overlaps with target congruence theory's dimension of target vulnerability. Anderson (1999) argued that when young people are picked to be targeted or hit by others, they should hit back or "display heart to engage in a standoff"

(p.131) such that "the message that you are not a pushover must be sent loudly and clearly" (p. 130). Anderson's description thus implies that retaliatory reaction, or the display of retaliatory norms, sends a message of target invulnerability and defends an individual against repeated victimization (see also, Stewart, Schreck, & Simons, 2006, for discussion).

Anderson (1999) claimed that the capability of defending oneself against further victimization was appealing, and, as alluded to earlier, was a prevailing issue facing parents in both street families and decent families. However, physical retaliation was not the only option for children's safety in the decent family's eyes. Anderson suggests that parents in decent families typically guided their children to avoid physical fighting, though they also recognized that their children might need to stand up to those who are aggressive toward them. Preferably without actually resorting to retaliatory violence, decent youths are taught to act as if they *could* retaliate (i.e., they are taught to display "retaliation potential"). For example, Anderson (1999) introduced a story about a hardworking decent mom and her son, Curtis (p. 71). Curtis was bothered by his peers at school and his mom encouraged him to appear as if he could handle himself (i.e., retaliate) by talking "bad" and showing "nerve" without actually hitting anyone. Curtis's story describes how important displays of retaliatory norms were to signaling invulnerability and preventing further victimization at school.

General Toughness Norms as Target Antagonism

Anderson (1999) argued that when young people adopt GTNs, they embrace the idea that general displays of physicality, sexual prowess, aggression, and toughness go hand in hand with respect. In order to gain respect, they are constantly ready to hit others. However, "in turn, they are readily hit by other children" (p.69). That is because "a profound power transaction occurs" when someone who displays toughness is overtaken (p.126). Further, Anderson (1999) claimed

that stealing the possessions of others, which can be anything—including something material or another person's honor or girlfriend—is one common way to campaign for status. When a person takes the possessions of others, he/she wants to flaunt those possessions in order to gain respect from others. However, showing this ownership might aggravate other people by igniting jealousy and anger, and in turn, inviting a challenge from them. In short, a violent give-and-take is constantly being played out on inner-city streets in the race for respect, as "raising oneself up largely depends on putting someone else down" (p.75). Thus, Anderson's description is consistent with target congruence theory in that adherence to GTNs might increase the risk of violent victimization by antagonizing others.

Retaliatory Norms, General Toughness Norms, and Risky Lifestyle

Beyond the two opposite direct effects of RNs and GTNs on victimization, as supported by target congruence theory, lifestyle-routine activity theory (L-RAT) supports an expected *indirect* positive relationship between adherence to the code of street (both adherence to retaliatory norms and general toughness norms) and violent victimization. L-RAT (Cohen et al., 1981) claims that lifestyles and activities are presumed to be opportunistic if they (1) expose an individual to larger pools of motivated offenders; (2) put the individual in close proximity to offenders; (3) provide material or symbolic desirability to offenders; and/or (4) reduce the extent to which the individual can be guarded by other persons or objects. Quite simply, a risky lifestyle which exposes one or puts one in proximity to motivated offenders without suitable guardianship increases the risk of victimization.

Street norms, especially GTNs, are relevant to L-RAT because they are presumed to increase the likelihood or frequency of deviant activities which should, in turn, increase the risk of violent victimization. In fact, previous studies found that individuals who were committed to

street code are more likely to present violent behavior and aggression (Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Anderson, 1999; Ball-Rokeach, 1973; Bernard, 1990; Baron, Kennedy, & Forde, 2001; Brookman, Bennett, Hochstetler, & Copes, 2011; Fleisher, 1995; Heimer, 1997; Heimer & De Coster, 1999; Kennedy & Forde, 1994; Liska, Felson, Chamlin, & Baccaglini, 1984; Ousey & Wilcox, 2005; Simons, Chen, Stewart, & Brody, 2003; Stewart & Simons, 2006, 2010; Stewart, Simons, & Conger, 2002). In turn, a great deal of research indicates that violent behaviors and offending increase the risk of victimization, including school-based victimization (Augustine et al., 2002; Burrow & Apel, 2008; Deryol et al., 2017; Henson, Wilcox, Reyns, & Cullen, 2010; Laurtisen, Laub, & Sampson, 1992; Sampson & Lauritsen, 1990; Schreck & Fisher, 2004; Schreck et al., 2003; Taylor, Freng, Esbensen, & Peterson, 2008; Tillyer et al., 2011; Turanovic & Pratt, 2014; Turanovic et al., 2015; Wilcox et al., 2009). The connection between deviant activity and victimization is also supported by the clear evidence that there is victim-offender overlap (Jennings, Piquero, & Reingle, 2012; Lauritsen, Sampson, & Laub, 1991; Taylor et al., 2008). For example, Jennings, Piquero, and Reingle (2012) conducted a literature review about the overlap between offending and victimization. Among 37 studies, authors found considerable support for the overlap based on 31 studies. Only six studies provided mixed support.

Altogether, adherence to both RNs and GTNs is expected to be positively related to the risky activity (especially true to GTNs), and risky activity is expected to be positively related to victimization. In other words, RNs and GTNs should exert positive indirect effects on victimization through risky lifestyle.

Does the Measure of Victimization Matter? Likelihood versus Frequency

Logic suggests that adherence to retaliatory norms might decrease "repeat victimization" more than "any victimization." That is, displaying the potential for retaliation might serve to lower "any victimization" risk (i.e., victim/not victim). But, through a situational display of retaliation to any initial victimization, victims are able to more explicitly identify themselves (to offenders) as likely to resist and counter-attack, thus deterring repeated attacks to an even greater extent (than initial attacks). In contrast, adherence to general violent norms involves more persistent displays of toughness and aggression and thus might make one as susceptible to repeated victimization as "any" victimization. After all, displays of GTNs would presumably continuously antagonize others. Thus, these two different dimensions of the street code might differentially affect repeat victimization versus any victimization. Therefore, the analyses to follow in this dissertation examine the effects of commitment to retaliatory norms and general toughness norms, separately, on both the likelihood of violent victimization and the frequency of violent victimization.

Does National Context Matter? The U.S. versus South Korea

As indicated in Chapter 1, studies in both the U.S. and South Korea looked at the correlates drawing upon lifestyle and target congruence theory in the examination of victimization risk at school and found quite consistent results across different student samples. Additionally, in the examination of chronic victimization at school, studies in both nations examined social behaviors, such as aggression and submissiveness, and also found consistent positive results of such attributes. Based on the similarity in correlates of victimization risk at school across U.S. and South Korea data to date, this dissertation anticipates similar effects regarding street codes on victimization at school in the U.S. versus South Korea, thus providing

additional evidence of the generalizability of the correlates of student violent victimization. However, this remains an empirical question to be addressed in the analyses to come.

PREVIOUS RESEARCH

This section provides a review of previous studies relevant to the direct and indirect effects of RNs and GTNs described above. Notably, most relevant previous research is based on U.S. samples; there are no studies of street codes based on Korean data. Studies differ in terms of how they operationalize "street codes" or "subculture of violence." Further, very few studies that examine the effects of street codes on victimization or offending behavior have explicitly acknowledged that street codes consist of both RNs and GTNs. However, since this dissertation does recognize RNs and GTNs as distinct types, the literature review provided here attempts, where possible, to classify the measures used—as either representing RNs, GTNs, or both (i.e., with items tapping both norms combined into single indexes).

The Code of the Street and Victimization

Beyond Anderson, some qualitative work supports the idea that commitment to retaliatory norms provides protection effects against victimization. For example, Baron et al. (2001) conducted interviews with street youth and found that previous violent victimization experience was negatively associated with the street code. Their measures of street code tapped both retaliatory norms and general toughness norms with items asking if "*hitting others is appropriate when called a dirty name and hit first/ to gain respect from other youth."* Despite the fact that this study combined RNs and GTNs in the measurement of the street code and actually examined the reverse causal order to the street code-victimization relationship examined in this dissertation, findings still somewhat support the posited negative effect of RNs on

victimization (especially repeat victimization). The authors explained that 125 homeless male street youth learned from their victimization experience that physical aggression is required to protect themselves from future victimization and thus, would exert the retaliatory violence to reduce the odds to be a further victim.

Similarly, Rich and Grey's (2005) interviews with victims also indicated that people would retaliate to prevent further victimization. Specifically, they interviewed black male victims of violence between the age of 18 and 30 years and found that 84% of the participants agreed that retaliation functions to protect themselves from repeat victimization. That is, these victims believed if they do not respond aggressively to physical and psychological harms by offenders (i.e., display an adherence to RNs), they will receive a reputation of a "sucker"—on who just sits and takes an act of violence against them without retaliatory reaction. In turn, "being a sucker" would send the message to the previous offenders, or other potential assailants, that they are suitable targets for repeat victimization. Felson (1982) also emphasized that the goal of retaliation is to deter repeat victimization. In his study, he examined various situational factors which might condition the severity levels of incidents of aggression and violence using samples of the general population, ex-mental patients, and ex-criminal offenders. He found that verbally or physically violent behaviors that were justified as actions of retaliation for an antagonist's attack helped avoid subsequent severe violent interactions.

In contrast to the qualitative research, most quantitative studies of the effect of street code on victimization to date provide little support for the idea that RNs might be negatively related to victimization. However, such an effect would be difficult to discern, if it existed, because almost all previous studies have used measures of street codes that combine items tapping both RNs and GTNs (e.g. Schreck et al., 2012; Stewart et al., 2006; Zavala & Spohn,

2013). All of these previous relevant quantitative studies are summarized in Table 2.1.

For example, the "landmark" quantitative study in this regard is by Stewart et al. (2006). They looked at the effect of street codes on victimization using data from African American adolescents, and they found a positive effect of street codes on victimization controlling for neighborhood context, demographic characteristics, and prior victimization experience of the respondents. Their explanation for this finding was compatible with street codes serving to antagonize. Specifically, they explained that being belligerent toward others to gain respect might increase the levels of violence from a disrespected party to save face, and it might increase the risk of victimization. Similarly, they suggested that more frequent contact with potential offenders followed by risky lifestyles might also increase the risk of victimization. Finally, the authors argued that in the neighborhood where youth are completely committed to the street values, a decent youth's temporary adoption of street values (i.e., "code switching") is not interpreted (on the part of offenders) as an ability to take care of oneself, and thus such youths remain vulnerable. While the Stewart et al. (2006) findings are a key contribution to the literature, it is also important to note that the authors measured street codes as a unidimensional construct (combining items that tapped both RNs and GTNs), thus masking any potential differential effects across these types of norms.

In another key piece of research, Schreck and colleagues (2012) incorporated street values into the study of student violent victimization *at schools*. Their study mainly examined whether the factors for one type of victimization could be distinguished from the factors for other types of victimization (violent victimization versus non-violent victimization in this study). In other words, they were interested in whether certain factors made one more likely to "specialize" in violent victimization versus other types of victimization. Using student data from RSVP,

Schreck et al. (2012) found that those who adopted the street code were significantly more likely to experience violent victimization compared to nonviolent victimization, though this result was inconsistent across the four waves of data analyzed.

The Stewart et al. (2006) and Schreck et al. (2012) studies, in many ways, have served as the basis for all subsequent analyses of the street code-victimization relationship, yet they still do not advance our understanding of whether victimization risk at school is potentially uniquely related to two distinct types of street codes since they use a single (index) measure of street codes that combines RN and GTN items. In contrast, another previous quantitative study, by McNeeley and Wilcox (2015), used three separate single-item measures of street codes, with one of them similar to this dissertation's conceptualization of RNs and two of them overlapping with GTNs (see Table 2.1). In opposition to the idea that RNs may represent invulnerability, they found that the item tapping the norm *"do not back down when insulted"* was associated with enhanced risk of victimization. More consistent with the expectations articulated in this chapter, McNeeley, and Wilcox (2015) found that adoption of general toughness norms increased the risk of victimization. Specifically, they introduced two items that tapped what could be considered GTNs: (1) an item measuring a respondent's approval of toughness in order to gain a tough reputation and (2) an item measuring a respondent's approval of confrontation with strangers in order to not be seen as weak. They found that those who approved of toughness to receive a tough reputation were associated with increased risk of victimization. Consistent with the notion that this GTNs serves as an indicator of target antagonism, the authors explained that adherents of the street code behave in ways that are considered as disrespectful and belligerent, thus triggering other street code followers to respond violently in order to save face.

It should be noted that McNeeley & Wilcox did not intend to separate their street code

items, but low reliability estimates precluded combining them into a single scale. They did not explicitly recognize or articulate any RNs versus GTNs distinctions, and they expected all items to be positively related to victimization. However, given the low inter-item correlations and the modest inconsistencies across measures in the effects of the items on victimization, the authors did encourage future research to address potentially distinct dimensions of the code of the street. It is this potential distinction that serves as a primary framework for this dissertation.

Table 2.1. Studies Testing the Effect of Code-Related Beliefs on Victimization					
Citation	**Data**	**Outcome**	**Code Measure(s)**	**Code Categorization**	**Significant Predictor**
McNeeley & Wilcox (2015)	Secondary data from Ross Matueda's Seattle Neighborhoods and Crime Survey	Assault victimization	Values favorable to violence: (1) if someone insults you or threatens you, you should turn the other cheek (Don't back down), (2) out in public, it is important to avoid confrontation with strangers to avoid violence (confrontations okay), and (3) it is important for young men to have a reputation as someone who is tough and not to be messed with(tough reputation)	Retaliatory norms (RNs) and general toughness norms (GTNs); separated	Don't back down (+)/tough reputation (+)
Stewart et al. (2006)	FACHS, 720 African-American adolescents	Violent Victimization	Adopting the street code: (1) when someone disrespects you, it is important that you use physical violence against you, (2) it is important that you use violence against him or her to get even, (3) people will take advantage of you if you don't let them know how tough you are, (4) people do not respect a person who is afraid to fight physically for his/her rights, (5) sometimes you need to threaten people in order to get them to treat you fairly, (6) it is important to show others that you cannot be intimidated, and (7) people tend to respect a person who is tough and aggressive	RNs and GTNs: combined	Street code (+)
Schreck et al. (2012)	RSVP	Violent and non-violent victimization	Violent subculture: asking individuals how acceptable it is to (1) beat up other kids to gain respect, (2) beat up others who call you a dirty name, (3) beat up others who start a fight with you, and (4) hit other people as a means to get what one wants	RNs and GTNs: combined	Violent subculture (+)

Zavala &Spohn (2013)	National Survey of Weapon-Related Experiences, Behaviors, and Concerns of High School Youth	Violent Victimization	Aggressive beliefs: (1) In my crowd, if you don't have a gun, you don't get respect, (2) it is okay to shoot someone to get something you want, (3) it is okay to shoot someone who doesn't belong in your neighborhood, (4) my friends would look down on me if I did not carry a gun, (5) it is okay to shoot someone who does something to insult you, (6) my friends would look down on me if I did not carry knife, and (7) it is okay to shoot someone who has stolen something from you	RNs and GTNs: combined	None

Indirect Effects of Norms through Risky Lifestyle

A positive indirect effect of RNs and GTNs through risky lifestyle is supported by a much larger literature linking measures of street codes to violent offending. Table 2.2 provides a summary of studies testing the effects of street code on violent behaviors. As with the literature testing the street code-victimization relationship, the measures of respondents' street values vary a great deal across studies testing the street code-offending link. Further, most previous studies of the street code-offending relationship did not explicitly distinguish between RNs and GTNs (many combined these norms into one measure). Despite this fact, for the purpose of the study, I attempted to categorize measures as representing RNs or GTNs when appropriate.

Most previous studies examining the relationship between the adoption of code of street and deviant lifestyle used measures of street codes that combined RNs and GTNs (e.g., Baron et al., 2001; Brezina, Agnew, Cullen, & Wright, 2004; Heimer, 1997; Heimer & De Coster, 1999; Matsuda, Melde, Taylor, Freng, & Esbensen, 2013; McGloin, Schreck, Stewart, & Ousey, 2011; Ousey & Wilcox, 2005; Piquero, Intravia, Stewart, Piquero, Gertz, & Bratton, 2012; Simons et al., 2003; Stewart & Simons, 2006, 2010; Stewart et al., 2002; Zavala & Spohn, 2013). As seen in Table 2.2, these studies reveal a positive relationship between adherence to street codes and violent behaviors. For example, using the National Youth Survey, Heimer and De Coster (1999) found that learning violent definitions was significantly related with self-reported violent delinquency in a positive direction for both male and female respondents, even after controlling for prior violence and other predictors. Their measures of definitions favorable to violence included not only items tapping general toughness norms but also retaliatory norms such as items asking respondents if "*it is all right to beat up another person if he/she called you a dirty name, and if he/she started the fight"*, as shown in Table 2.2.

However, a few exceptions used measures that tap either RNs, GTNs, or both (separately). Such studies typically report that commitment to either RNs or GTNs are positively related to violent behavior (Agnew, 1994; Ball-Rokeach, 1973; Bernburg & Thorlindsson, 2005; Colder et al., 2000; Hindelang, 1970; Liska et al., 1984; Markowitz & Felson, 1998; Matsuda et al., 2013; Smith, 1979). For example, using data from students in seven cities across the U.S., Matsuda and colleagues (2013) found that measures of both general approval of toughness (what they referred to as "street code") and approval of situational retaliation (what they referred to as "violence neutralization") were positively related to violent behaviors. However, the magnitude of effect was especially pronounced for general toughness norms versus retaliatory norms. Further, Smith (1979) also reported that the effects on violence of adherence to norms promoting situational retaliation was very small. In line with these findings, Agnew (1994) noted that adolescents who adhere to norms accepting of retaliation might only express deviant behavior in certain situations (e.g., when being attacked). Altogether, then, the literature supports the premise that adherence to both RNs and GTNs should be indirectly, positively related to victimization, through risky activity, though the relationship is likely stronger regarding adherence to GTNs.

Table 2.2. Studies Testing the Effect of adoption of street value on Violent Behaviors					
Citation	**Data**	**Outcome**	**Code measures**	**Code Categorization**	**Significant Predictor**
Agnew (1994)	Second and Third waves of the National Youth Survey	Time 3 Violent behavior	The general approval of violence: How wrong is it for someone your age to hit or threaten to hit someone without any reason? Violence neutralizations: It is alright to beat up people if (1) they started the fight, (2) call your names, (3) if people do something to make you really mad, and (4) if walked all over you	RNs and GTNs: separated	Cross-sectional effects: Neutralization (+) Approval of Violence (+) Delinquent Peers (+) /Neutralization*Approval (+), Neutralization*Delinquent Peers (+) Lagged effects: Neutralization (+), Delinquent Peers (+), Time 2 Violence (+)/ Neutralization*Approval (-), Neutralization*Delinquent peers (+)
Allen &Lo (2012)	Yong inmates and high school students in four American States in 1991/ Firearms, Violence, and Youth in CA, IL, LA, and NJ	Drug dealing and gun carrying	Code-based beliefs (Gun related): (1) Without a gun, I would lack respect among my crowd, and (2) Without a gun, my friends would look down on me	GTNs only	Code-based beliefs (+)

Ball-Rokeach (1973)	National sample of 1,429 America adults, 363 incarcerated men in Michigan	Inter-personal violence and violent crime	Are there any situations you can imagine in which you would approve of: (1) a teenage boy punching or beating another teenage boy, and (2) a public-school teacher hitting a student	GTNs only	Violent attitudes (+ but very small)
Baron et al. (2001)	125 male street youths	Subcultural support for violence	Violent Subculture: (1) it is right to beat up if they started the fight, (2) it is all right to physically beat up people who call you names, (3) if people do something to make you really mad, they deserve to be beaten up, (4) if you don't physically fight back, people will walk all over you, (5) it is sometimes necessary to get into a fight to uphold your honor, (6) it is sometimes necessary to get into a fight to put someone in their place, (7) When someone hurts me I try to get even…… (13) I like to watch a good vicious fight	RNs and GTNs: combined	Subcultural approval for violence (+)
Bernburg & Thorlindsson (2005)	National survey of Icelandic adolescents	Aggressive behavior	Neutralization values: (1) sometimes there are situations that justify people being beaten up or hit, and (2) when someone treats me badly I think it' okay to beat up him/her or hit him/her. Retribution values: (1) forgiving those who treat you badly, and (2) being nice to others even when they do something that you do not approve of Conduct norms: he/she who does not respond to a personal attack by hitting or beating up the person is considered a coward in my group of friends	RNs only	School: conduct norms (+)/ Individual: neutralization values (+), Retribution values (+), conduct norms (+)

Brezina et al. (2004)	The first three waves of the National Youth Survey	Violent behavior	Code related beliefs: (1) it is sometimes necessary to get into a fight to uphold your honor or to put someone in his or her place, (2) it is all right to beat up another person if he or she started the fight, and (3) it is all right to beat up another person if he or she called you a dirty name	RNs and GTNs: combined	Code-related beliefs (+)
Colder et al. (2000)	Aban Aya Youth Project. Inner-city school-based sample of 732 predominantly African American 5th graders	Verbal aggression, physical fighting, gang involvement	Positive Beliefs About Aggression: (1) if you don't push around, you will always get picked on, (2) there is no point in trying to stay out of a fight, (3) you should hurt people first before they hurt you, (4) people need to be roughed up once in a while, and (5) beating someone up teaches them a good lesson.	GTNs only	Positive beliefs about aggression (+)
Heimer (1997)	Youths 11 to 17 years old from the National Youth Survey in 1976	Self-reported violent delinquency	Definitions favorable to violence: (1) In order to gain respect from your friends, it is sometimes necessary to beat up on other kids, (2) it is all right to beat up another person if he/she called you a dirty name, (3) it is all right to beat up another person if he/she started the fight, and (4) hitting another person is an acceptable way to get him/her to do what you want.	RNs and GTNs: combined	Definitions favorable to violence (+)
Heimer & De Coster (1999)	National Youth Survey	Self-reported violent delinquency	Violent definitions: (1) in order to gain respect from your friends, it is sometimes necessary to beat up on other kids, (2) it is alright to beat up another person if he/she called you a dirty name, (3) it is alright to beat up another person if he/she started the fight, and (4) hitting another person is an acceptable way to get him/her to do what you want	RNs and GTNs: combined	Violent definitions (+) for both males and females

Hindelang (1970)	34 freshmen and 35seniors from a population of 346 boys in a middle-school section of Oakland, California	21 Delinquent activities	Approval of 21 delinquent activities	GTNs only	Approval of 21 delinquent activates (+)
Liska et al. (1984)	N/A	N/A	Attitudes toward revenge	N/A	Violent behaviors (+)
McGloin et al. (2011)	RSVP	Overall delinquency and Specialization in violence	Subculture of violence: level of agreement with the following (1) beating up other kids to gain respect, (2) beating up others who call you a dirty name, (3) beating up others who start a fight with you, (4) hitting other people is acceptable to get what one wants	RNs and GTNs: combined	Subculture of violence (+)
McGrath et al. (2012)	Survey of 208 male residents of a work-release facility	Violence, drug and alcohol use	Violent value: three questions about how the respondent would react to confrontation (three items are not introduced)	N/A	Violence: Violent values (+) Drug/alcohol: none
Markowitz & Felson (1998)	A sample of ex-criminal offenders (N=141) provided by the Albany County Division of Parole and a sample of the general population (N=245)	Violent behavior	Two central concepts of subcultural thesis Attitudes toward retribution: (1) violence deserves violence, (2) an eye for an eye, and (3) when someone does wrong, he should be paid back for it. Attitudes toward courage:(1) it is extremely important not to be a coward in a fight or argument, and (2) showing courage in a fight or argument is a very important thing	RNs and GTNs: separated	Attitudes toward retribution (+) Attitudes toward courage (+)

Matsuda et al. (2012)	National evaluation of GREAT program	Violent delinquency	Subculture of violence: (1) when someone disrespects you, it is important that you use physical force or aggression to teach him or her not to disrespect you; (2) if someone uses violence against you, it is important that you use violence against him or her to get even; (3) people will take advantage of you if you do not let them know how tough you are; (4) people do not respect a person who is afraid to fight physically for his/her rights; (5) sometimes you need to threaten people in order to get them to treat you fairly; (6) it is important to show others that you cannot be intimidated; and (7) people tend to respect a person who is tough and aggressive Violence neutralizations: (1) it is okay to beat up someone if they hit you first, (2) it is okay to beat up someone if you have to stand up for or protect your rights, (3) it is okay to beat up someone if they are threatening to hurt your friends or family	RNs and GTNs: combined for Subculture of violence RNs only for violence neutralizations	Street code (+), Violence neutralizations (+)
Ousey &Wilcox (2005)	RSVP	Violent offending	Subculture of violence: (1) In order to gain respect from friends, it is sometimes necessary to beat up on other kids, (2) it is alright to beat up another person if he or she called you a dirty name, (3) it is alright to beat up another person if he or she started the fight, and (4) hitting another person is an acceptable way to get him or her to do what you want	RNs and GTNs: combined	Individual violent values (+)

Piquero et al. (2012)	Nationwide survey of adults	delinquency	Street code: (1)When someone disrespects you, it is important that you use physical force or aggression to teach him or her not to disrespect you, (2) if someone uses violence against you, it is important that you use violence against him or her to get even, (3) people will take advantage of you if you don't let them know how tough you are, (4) people do not respect a person who is afraid to fight physically for his/her rights, (5) sometimes you need to threaten people in order to get them to treat you fairly, (6) it is important to show others that you cannot be intimidated, and (7) people tend to respect a person who is tough and aggressive	RNs and GTNs: combined	None
Simons et al. (2003)	FACHS	Violent offending	An 8-item scale focus on the extent to which the participants believes that violence is often necessary to (1) defend one's right, (2) achieve respect, (3) obtain fair treatment, (4) to resist exploitation, and (5) avoid appearing weak	RNs and GTNs: combined	Aggression justified (+)
Smith (1979)	700 Canadian amateur ice-hockey players and nonplayers (males aged twelve to twenty-one)	Self-reports of fighting and official records of major hockey penalties	Approval of fighting index: Are there any situations you can imagine, not counting sport, in which you would approve of a teenage boy punching another teenage boy: (1) if he had been ridiculed and made fun of by the other boy, (2) if he had been challenged by the other boy to a fight, (3) if he had been shoved by the other boy	RNs only	Values and attitudes supportive of violence (+ but very small)

Stewart & Simons (2006)	FACHS	Violent offending	The extent to which it was justifiable or advantageous to use violence: (1) when someone disrespects you, it is important that you use physical force or aggression to teach him or her not to disrespect you, (2) if someone uses violence against you, it is important that you use violence against him or her to get even, (3) people will take advantage of you if you don't let them know how tough you are, (4) people do not respect a person who is afraid to fight physically for his/her rights; (5) sometimes you need to threaten people in order to get them to treat you fairly, (6) it is important to show others that you cannot be intimidated, and (7) people tend to respect a person who is tough and aggressive	RNs and GTNs: combined	Code of the street (+)
Stewart & Simons (2010)	FACHS	Violent delinquency			Individual culture (+)
Stewart et al. (2002)	FACHS	Childhood violent behavior	Adopting a street code: (1) sometimes you have to use physical force or violence to defend your right, (2) people will take advantage of you if you don't let them know how tough you are, (3) people do not respect a person who is afraid to fight physically for his/her rights, (4) sometimes you need to threaten people in order to get them to treat you fairly, (5) it is important to show others that you cannot be intimidated, and (6) people tend to respect a person who is tough and aggressive	RNs and GTNs: combined	Street code (+)

Zavala &Spohn (2013)	National Survey of Weapon-Related Experiences, Behaviors, and Concerns of High School Youth	Violent offending	Aggressive beliefs: (1) In my crowd, if you don't have a gun, you don't get respect, (2) it is okay to shoot someone to get something you want, (3) it is okay to shoot someone who doesn't belong in your neighborhood, (4) my friends would look down on me if I did not carry a gun, (5) it is okay to shoot someone who does something to insult you, (6) my friends would look down on me if I did not carry knife, and (7) it is okay to shoot someone who has stolen something from you	RNs and GTNs: combined	None

MOVING THE LITERATURE FORWARD

The Present Study's Contributions

Only one study of the street codes-victimization link to date, by Schreck and colleagues (2012), incorporated the street values in the explanation of student violent victimization at schools. This study is important in broadening our understanding of the applicability of street values to understanding the risk of violent victimization. Schreck et al. (2012) used data from *schools* in *Kentucky* (the same data analyzed herein), which is in stark contrast to data in many other studies— which surveyed youth from disorganized, predominantly African American communities in Atlanta, St. Louis, Philadelphia, and Chicago, for example (Anderson, 1999; Jacobs & Wright, 2006; Stewart et al., 2006). However, much like the street code literature more generally, Schreck et al. (2012) used a unidimensional measure of street values, and this approach does not allow us to understand the potentially distinct effects of RNs versus GTNs on school violent victimization. Thus, using the same student data from RSVP, this dissertation seeks to fill this gap in the literature and better understand the various ways the code of the street might relate to violent victimization at schools across different cultural/national groups.

First, in considering the effect of street values on the risk of student violent victimization at schools, this dissertation separates street values into the two distinct street code orientations: 1) adherence to retaliatory norms, and 2) adherence to general toughness norms. This dissertation suggests that these two distinct orientations might exhibit opposite direct effects, consistent with Anderson's (1999) claim and supported by target congruence theory. This dissertation also examines the effects of commitment to retaliatory norms and general toughness norms not only on the likelihood of violent victimization but also the frequency of repeat violent victimization, with the idea being that retaliatory norms, specifically, might affect repeat

victimization more than any victimization. Importantly, the direct effects of RNs and GTNs on the likelihood of victimization are examined using two sources of data—one from students in schools in the U.S. and the other from students in schools in South Korea. Thus, this study has a comparative component that allows exploration of whether the effects of street values on violent victimization are generalizable. Finally, this dissertation examines the extent to which the effects of different dimensions the code on victimization is indirect, through risky (deviant) lifestyles.

Research Questions/ Hypotheses

The hypotheses associated with this study's research questions are as follows:

Research Question 1: Are distinct aspects of street code orientation related differently to the risk of in-school violent victimization in a U.S.-based sample, controlling for other key correlates?

> *H1A*: Controlling for risky lifestyle, low self-control, social bonding, and sociodemographic factors, adherence to norms supporting retaliatory violence is negatively directly related to both the likelihood of school-based violent victimization and the frequency of victimization among victims, with the latter effect being more pronounced.
>
> *H1B*: Controlling for risky lifestyle, low self-control, social bonding, and sociodemographic factors, adherence to norms supporting general toughness is positively directly related to both the likelihood of violent victimization and the frequency of victimization among victims, with both effects being similar in magnitude.

Research Question 2: Are distinct aspects of street code orientation related differently to the risk of student violent victimization in a South Korean sample controlling for other key correlates[1]?

> *H2A*: Controlling for risky lifestyle, low self-control, social bonding, and sociodemographic factors, adherence to norms supporting retaliatory violence is negatively directly related to the likelihood of school-based violent victimization.
>
> *H2B*: Controlling for risky lifestyle, low self-control, social bonding, and sociodemographic factors, adherence to norms supporting general toughness is positively directly related to the likelihood of violent victimization.

[1] Only likelihood of victimization can be assessed with the Korean data due to the dichotomous measurement of victimization (to be discussed further in Chapter 3).

Research Question 3: Are distinct aspects of street code orientation *indirectly* related to the risk of in-school violent victimization through risky lifestyle in a U.S.-based sample controlling other key correlates[2]?

> *H3:* Controlling for low self-control, social bonding, and sociodemographic factors, adherence to norms supporting retaliatory violence and norms supporting general toughness are positively indirectly related to frequency of violent victimization, through risky lifestyle, with the indirect effect of GTNs being stronger (due to the stronger positive relationship between GTNs and risky lifestyle).

[2] Indirect effects cannot be assessed with the Korean data due to the dichotomous measurement of victimization, in combination with the AMOS software used for SEM analysis (to be discussed further in Chapter 3).

CHAPTER 3: METHODS

This chapter describes the conceptual models, data, measures, and analytic methods used to address the research questions and hypotheses stated at the end of Chapter 2. Overall, two major conceptual models are tested in this dissertation; these models are depicted in Figures 3.1 and 3.2 below. First, as suggested by Figure 3.1, this dissertation posits that two distinct street orientations that are part of Anderson's (1999) "code of the street"—retaliatory norms (RNs) and general toughness norms (GTNs)— will exert opposite direct effects not only on the likelihood of violent victimization among population but also on the frequency of violent victimization among victims, while controlling for the other correlates. Effects on the likelihood of victimization are tested with data from students in the U.S. as well as with data from students in South Korea, whereas only the U.S. sample can be used to examine effects on the frequency of victimization.

Next, as suggested by the theoretical model represented by Figure 3.2, this dissertation posits that both RNs and GTNs will exhibit indirect positive effects on violent victimization frequency through risky lifestyles. Due to data measurement restrictions within the Korean sample, this conceptual model will be examined with the U.S. student data only.

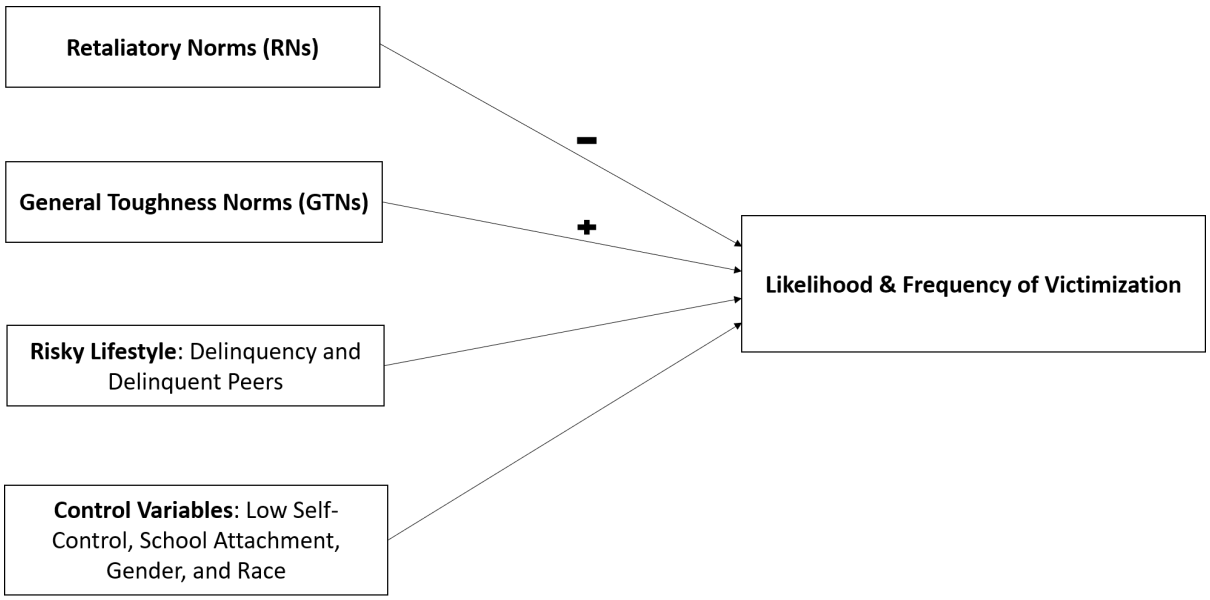


Figure 3.1. Theoretical Model for the Effects of RNs and GTNs on the Likelihood and Frequency of Violent Victimization at School.

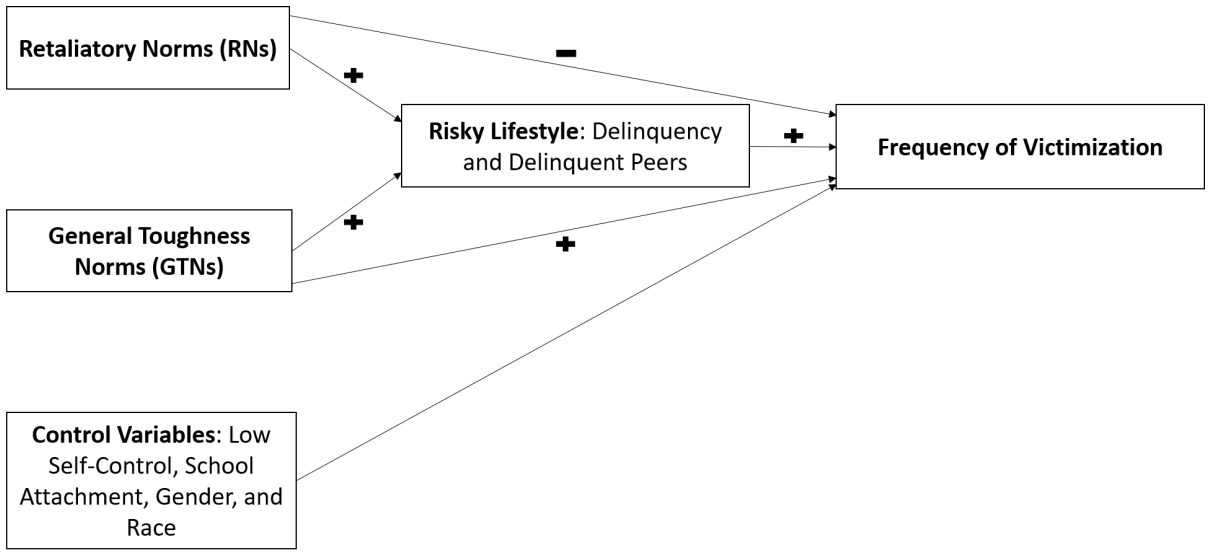


Figure 3.2. Theoretical Model for the Indirect Positive Effects of RNs and GTNs on the Frequency of Repeat Violent Victimization at School through Students' Risky Lifestyles.

DATA: U.S. SCHOOL STUDENTS

To test the theoretical models just summarized, this dissertation primarily uses the four waves of student survey data from the *Rural Substance Abuse and Violence Project* (RSVP), funded by the National Institute of Drug Abuse (DA-11317). As I am using secondary data that has already been collected from human subjects by other researchers, and the data are de-identified, I applied for and received an exemption from University of Cincinnati's IRB.

RSVP was a four-wave longitudinal study designed to examine individual and contextual factors that affect substance use, victimization, and offending among middle and high school students in the state of Kentucky between the years of 2001 and 2004. While students' experiences were the main focus of the RSVP study, the project also involved surveying teachers and school administrators. Here, this dissertation focuses on the data from students obtained across four waves of RSVP in order to assess the relationship between the street values and the likelihood/frequency of student violent victimization controlling for other key individual-level correlates.

The original sampling design for RSVP involved, first, a stratified random sampling of 30 of Kentucky's 120 counties. Four strata were defined by county population, with stratum one representing the most populous counties in the state and stratum four representing the least populous. Largely relying upon probability-proportionate-to-size (stratum size) sampling techniques, two counties were selected from stratum one, four counties were sampled from stratum two, 11 counties were selected from stratum three, and 13 counties were sampled from stratum four. All public schools containing 7th graders within the sampled counties were asked to participate in the study, with 65 of the 74 eligible schools agreeing. Finally, all 9,488 seventh graders within the 65 participating schools in Wave 1 were targeted for the student sample.

Active parental consent was obtained for 4,102 of these 7th graders. Completed surveys were obtained from 3,692 students in 65 schools in wave 1; 3,638 students in 61 schools in wave 2; 3,050 students in 55 schools in wave 3; and 3,040 students in wave 4. Overall, there was participation from 3,976 students in one or more waves of the study. In this dissertation, the student data were pooled across all four waves of the study, creating 13,420 unique "student-wave" observations. After listwise deletion of cases with missing data[3], the final sample for analysis purposes consisted of 11,749 students in Kentucky. The number of valid cases and missing percent for each survey item before the listwise deletion are presented in Appendix A.

Measures: Dependent Variables

The dependent variable in this study was created with three survey items in which students indicated how many times (0=0, 1=1…..10=10+) they had experienced the following acts of serious violence during the present school year, on the school grounds, or during school-related activities (Cronbach's alpha=0.83): (1) things taken by force (i.e., robbery), (2) having a weapon pulled on them (i.e., knife, brass knuckles, and so on, other than gun), and (3) having a gun pulled on them. Responses to these serious violent victimization items were summed for each respondent, resulting in a count outcome ranging from 0 to 30. Descriptive statistics in Table 3.1 indicate that the average number of student victimizations per year was 0.75. As will be discussed below, the analytic technique involved subdividing the victimization count into two components—a binary component distinguishing zero and non-zero cases and a second

[3] I conducted Little's MCAR test to examine if missing cases are *missing completely at random*. It was significant, thus failing to reject the null hypothesis of *missing at random*. Accordingly, it is possible that listwise deletion will introduce bias. However, this study uses large samples of nearly 13,500 students and the number of cases with missing data on any one variable is small. In fact, all individual-level study variables had less than 2% of cases missing with the exception of delinquent peers, which was missing on between 7 to 8 % of cases, thus accounting for many of the total cases lost to listwise deletion.

component representing the number of victimizations among non-zero cases. Thus, Table 3.1 also presents the descriptive statistics for these two components. Overall, 13 percent of students reported any serious violent victimization, and the average number of victimizations experienced among victims within the year surveyed was 5.65.

Thus, on average, students who were victimized were victimized repeatedly. There are numerous labels for the phenomenon of multiple and recurrent victimizations, including "re-victimization," "repeated victimization," "repeat victimization," and "multiple victimization." Here, the number of "repeat violent victimizations" among victims is not necessarily a repeated *specific type* of violent victimization, but multiple experiences across any of the three types of violence that constitute the measure of "violent victimization." For example, if a respondent experienced two victimizations for one year, this might consist of one instance of things taken by force and one instance of having a gun pulled on the person. Or, it might consist of two instances of having a weapon pulled on the person.

Table 3.1. Descriptive Statistics of Study Variables

Variable	Metrics	Mean	SD	Min	Max
Dependent Variable					
Student violent victimization	(# of victimizations)	0.75	3.22	0	30
	(1= yes, 0= no)	0.13	0.34	0	1
	(# of victimizations among victims)	5.65	7.12	1	30
Key Independent Variables					
Codes of the street					
Retaliatory norms	(1=strongly disagree…4=strongly agree)	2.09	0.98	1	4
General Toughness norms	(1=strongly disagree…4=strongly agree)	1.47	0.65	1	4
Risky lifestyle					
Delinquency	(1=never…5=daily or almost daily)	1.15	0.39	1	5
Delinquent peers	(# of delinquent peers)	4.44	4.28	0	16
Control Variables					
Low self-control	(1=never true…4=always true)	1.82	0.68	1	4
School attachment	(1=strongly disagree…4=strongly agree)	2.99	0.55	1	4
Gender	(0=male, 1=female)	0.53	0.50	0	1
Race	(0=non-white, 1=white,)	0.90	0.29	0	1
Wave2		0.28	0.45	0	1
Wave3		0.24	0.43	0	1
Wave4		0.23	0.42	0	1

NOTE: All values are with a total N of 11,749 students except for the # of victimization among victims (N=1,545).

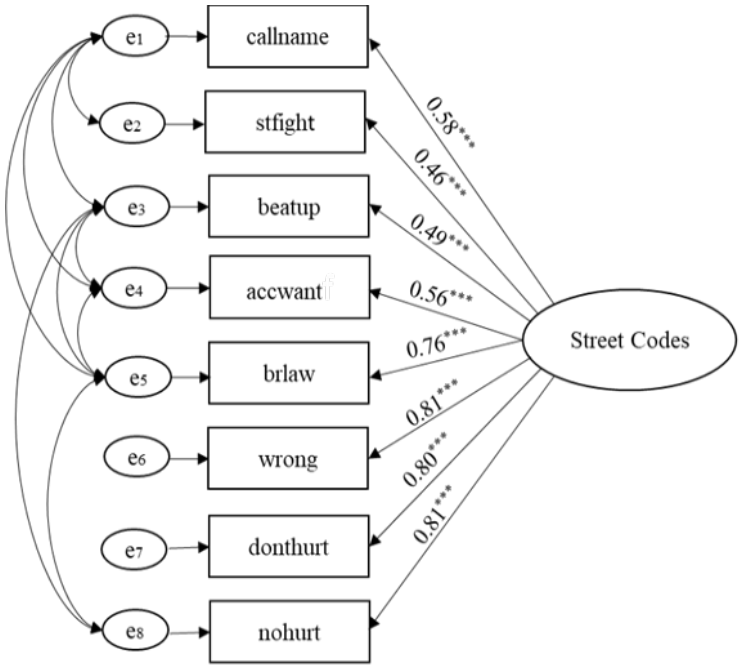
Measures: Individual Independent Variables

Key independent variables analyzed include two measures of street code: *retaliatory norms* and *general toughness norms*. For measurement of *retaliatory norms*, students were asked to indicate how much (1=strongly disagree… 4=strongly agree) they agreed with the two following statements (Cronbach's alpha=0.73): (1) it is alright to beat up another person if he/she started the fight and (2) it is alright to beat up another person if he/she called you a dirty name. For the measurement of *general toughness norms*, students were asked to indicate how much (1=strongly disagree… 4=strongly agree) they agreed with the six following statements

(Cronbach's alpha=0.87): (1) in order to gain respect from your friends, it is sometimes necessary to beat up on other kids, (2) hitting another person is an acceptable way to get him/her to do what you want, (3) it is okay to break the law if you can get away with it, (4) to get ahead, sometimes you have to do things that seem wrong, (5) most things that adults call "crime" don't really hurt anyone, and (6) it is okay to break the law if nobody is hurt by it. The scores across the two items and six items, respectively, were averaged for each student case in order to create the *retaliatory violent norms* and *general toughness norms* for each variable.[4]

Based on Principal Component Analysis (PCA), all items predict a single street code latent construct. However, I have a priori theoretical and empirical reasons to think that RNs and GTNs are distinct: 1) Anderson's work suggest multiple facets of the code and seems to predict both positive and negative effects on victimization, 2) prior work has also pointed to distinct dimensions, and 3) target congruence theory supports distinct concepts (vis "target vulnerability" and "target antagonism"). Additionally, the reliabilities for both scales in my data are strong and the correlation between the two scales is "moderate" (0.57) supporting the idea that these are not the same factor. Finally, Figure 3.3 presents two CFA analyses (using AMOS/SEM). The CFA analysis on the left side of the figure specifies one construct of street values, while the one on the right specifies two constructs of street values. The model fit indices for both CFA models in Figure 3.3 indicate acceptable fits to the data. However, the model specifying RNs and GTNs and two latent constructs rather than a single latent construct provided higher standardized regression weights (i.e., factor loadings all > 0.50) for each of the indicators. Such empirical evidence also supports that two distinct street orientations (RNs and GTNs) should be

[4] For these scales, and all other scales where averages were computed across items, scores were generated for those students who had valid data on at least half of the scale items. Otherwise, the value was coded as missing.



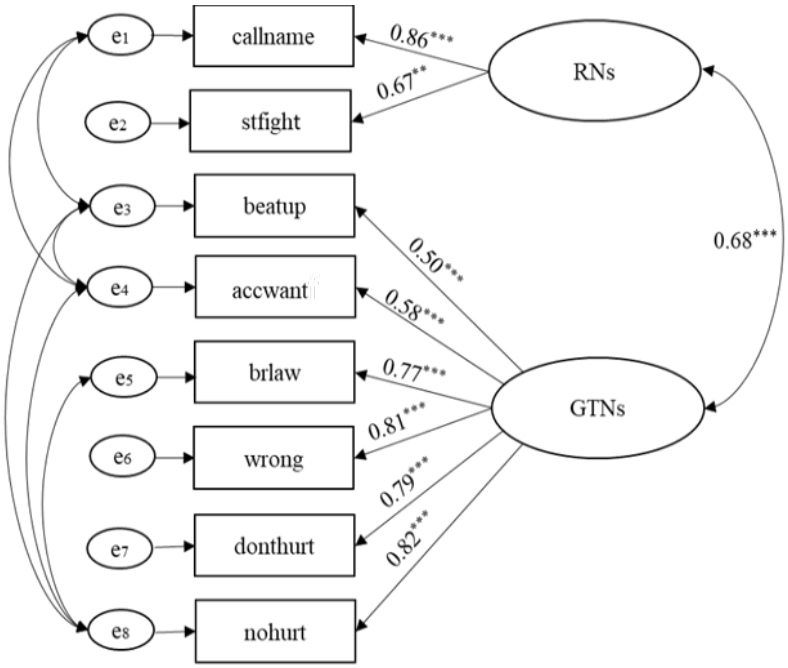
Model Fit

Chi-square= 246.637 (P<0.000) df=11

CFI=0.995

TLI=0.987

RMSEA= 0.042 (0.038, 0.047)



Model Fit

Chi-square= 355.300 (P<0.000) df=13

CFI=0.993

TLI=0.984

RMSEA= 0.047 (0.043,0.051)

Figure 3.3. Confirmatory Factor Analysis for Street Values (N=11,749)

NOTE: Correlations between error terms for both CFA models are based on the modification indices.
*$p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

distinguished.

This dissertation also used two variables for measuring risky lifestyle: *delinquency* and *delinquent peer*. *Delinquency* was measured with 13 survey items asking students to indicate how often (1=never…5=daily or almost daily) they do each of robbery, theft, assault, sexual assault, weapon carrying, weapon use, and vandalism in and around school. Responses to those items were averaged to create the *delinquency* variable (Cronbach's alpha=0.89). *Delinquent peer* was calculated by taking the sum of 16 dichotomous items that tapped whether the student's closest friends (1=yes, 0=no) were involved in various delinquent behaviors during the current school year (Cronbach's alpha=0.90).

While the measures described above are the main independent variables of interest, this dissertation also used one control variable to measure target congruence. Specifically, target antagonism was operationalized by *low self-control*. *Low self-control* was measured by taking the mean of 11 items (1=never true…4=always true) that measure the student's frustration, restlessness, temper, and attention span (Cronbach's alpha=0.91), with higher values reflecting lower levels of self-control. This measure is consistent with prior victimization studies using these data (e.g., Ousey, Wilcox, & Fisher, 2011; Tillyer et al. 2016). This dissertation also created three control variables measuring student' *school attachment*, *gender, and race*. *Attachment to school* is measured by calculating the mean of 6 items that asked students to indicate how much (1 = strongly disagree… 4 = strongly agree) they agree with the statement about their feelings toward their school, teachers, and education (Cronbach's alpha = 0.70). Finally, students' *gender* (0=male, 1=female) and student's *race* (0=non-white, 1=white) were used as control variables.

DATA: SOUTH KOREAN SCHOOL STUDENTS

Beyond the analysis of the U.S.-based RSVP data, this dissertation also uses South Korean school data in order to understand whether the effects of two distinct street values on the likelihood of student violent victimization at school are generalizable, cross-culturally speaking. Specifically, this dissertation uses student data from the Korea Youth Panel Survey (KYPS), previously collected by the National Youth Policy Institute and made available for secondary analysis. This is a six-wave longitudinal study—spanning the second grade within middle school to the freshman year in college— was designed to examine individual factors that affect deviant behavior, school dropout, inadequate participation in leisure activities, and occupational preparation across 12 regions in South Korea (Soul Metropolitan City and 11 metropolitan cities and provinces). The data were collected between the years of 2003 and 2008. For comparability with the RSVP sample, this dissertation focuses on the data from students obtained across four waves of the KYPS.

The stratified multi-stage clustering sampling design for the KYPS first involved a probability-proportionate-to-size (stratum size) sampling of middle schools across 12 regions. When a selected school refused to participate, replacement sampling was done. Next, one 2nd year class from each selected school was randomly sampled, with gifted and special education classes excluded. Finally, a total of 3,697 second-year students in the selected middle schools (equivalent to the seventh graders in the U.S. schools) were targeted for the student sample in wave 1. Completed surveys were obtained from 3,449 students in wave 1 to wave 4. Our final sample for analysis purposes consisted of nearly 13,800 students across four waves from the 105 selected sample schools in South Korea. After listwise deletion of cases with missing data, our final sample consisted of 12,453 students in South Korea. The number of valid cases and

missing percent for each survey item before the listwise deletion are presented in Appendix B. [5]

Measures: Dependent Variables

The dependent variable of interest in the Korean sample analysis, *in-school violent victimization*, was measured with six survey items in which students were asked if they had ever experienced following during last school year (1=yes, 0=no): (1) being severely teased or bantered, (2) being threatened, (3) being collectively bullied, (4) being severely beaten, (5) being sexually assaulted, and (6) being robbed. Then student's responses to these items were summed and dichotomized to 1=yes, 0=no. Importantly, unlike survey items tapping victimization in the RSVP data, these six items in the KYPS do not specify that the victimization happened at school or during school-related activities. However, based on the lifestyles of students (with much of their time spent at school or in school-related activities), I make the assumption that a number of their experiences with victimization happened at school, near school, or during school activities. Descriptive statistics in Table 3.2 indicate that nearly 10 percent of students had experienced victimization. Table 3.2 does not present descriptive statistics regarding the frequency of victimization among victims. Data collection in South Korea attempted to measure the frequency of victimization, but those measures are missing on more than 90 % of cases. As such, only "any victimization" can be measured with this sample, and the analysis of "any victimization" and "frequency of victimization among victims" will only be done with the U.S. sample.

[5] I did a Little's MCAR test to examine if missing cases are *missing completely at random*. However, it was significant, failing to reject the null hypothesis of *missing at random*. Accordingly, there is possibility that listwise deletion will introduce bias. However, this dissertation uses large samples of nearly 12,453 students and the number of cases with missing data on any one variable is relatively small.

Table 3.2. Descriptive Statistics of Study Variables

Variable	Metrics	Mean	SD	Min	Max
Dependent Variable					
Student violent victimization (logit)	(1=yes, 0=no)	0.10	0.31	0	1
Key Independent Variables					
Codes of street					
Retaliatory norms	(1=strongly disagree…5=strongly agree)	3.60	0.96	1	5
General toughness norms	(1=strongly disagree…5=strongly agree)	3.26	1.04	1	5
Risky lifestyle					
Delinquency	(0=0…7=7)	0.25.	0.73	0	7
Delinquent peers	(# of delinquent peers)	0.20	0.61	0	3
Control Variables					
Low self-control	(1=very untrue…5=very true)	2.70	0.64	1	5
School attachment	(1=very untrue…5=very true)	4.13	0.76	1	5
Gender	(0=male, 1=female)	0.50	0.50	0	1
Wave2		0.25	0.43	0	1
Wave3		0.24	0.43	0	1
Wave4		0.25	0.43	0	1

NOTE: All values are with a total N of 12,453 students

Measures: Individual Independent Variables

Key independent variables analyzed include two measures of street code: *retaliatory violent norms* and *general toughness norms*. Both were measures with single survey items. For measurement of *retaliatory norms*, students were asked to indicate how much (1=strongly disagree… 5=strongly agree) they agreed with the following: I will hit back at a person who hits me. For the measurement of *general toughness norms*, students were asked to indicate how much (1=strongly disagree… 5=strongly agree) they agreed with the following statement: I may hit other people when I feel annoyed. The correlation between the two measures is moderate as 0.56.

Analysis using Korean data also used two variables for measuring risky lifestyle:

delinquency and *delinquent peers*. *Delinquency* was measured with survey items asking students to indicate if they had ever committed the following (1=yes, 0=no) during the last year: (1) severely beating other people, (2) robbing, (3) stealing, (4) severely teasing or bantering other people, (5) threatening other people, (6) collectively bullying, and (7) sexual assault or sexual harassment. The responses to these seven items were summed, with higher values indicating higher levels of delinquency. *Delinquent peers* was calculated by taking the sum of three items that tapped whether the student's closest friends (1=yes, 0=no) were involved in the following delinquent behaviors during the last year (Cronbach's alpha=0.78): (1) severely beating other people, (2) robbing, and (3) stealing. The resulting sum ranged from zero to 3.

Beyond these main independent variables of interest above, analysis using Korean data in this dissertation also controlled for *low self-control*. *Low self-control* was measured by taking the mean of total nine items (1=very untrue/strongly disagree…5=very true/strongly agree) — which tap the student's attention span, temper, and impulsivity (Cronbach's alpha=0.74). The specific items were as follows: (1) I jump into exciting things even if I have to take an examination tomorrow, (2) I abandon a task once it becomes hard and laborious to do, (3) I don't do my homework habitually, (4) I am apt to enjoy risky activities, (5) I enjoy teasing and harassing other people, (6) I lose my temper whenever I get angry, (7) I am often seized by an impulse to throw an object whenever I get angry, (8) sometimes I can't suppress an impulse to hit other people, and (9) I consider myself as an explosive soon to be blown off. The scores across these nine items were averaged for each student case in order to create the *low self-control* variable, with higher values reflecting low levels of self-control.

Analysis using Korean data in this dissertation also controlled for *school attachment* and *gender*. *Attachment to school* is measured by calculating the mean of three items that asked

students to indicate how much (1 = very untrue… 5 = very true) they agreed with the following statement about their feelings toward their school, teachers, and education (Cronbach's alpha=0.72): (1) I find it difficult to follow school rules and regulations, (2) I am not in good terms with school teachers, and (3) I am not interested in school work, and find it difficult to catch up. All items were reverse-coded and averaged. Finally, students' *gender* (0=male, 1=female) was used as a control variable. Survey items for each variable used with the Korean sample, along with Cronbach's alpha values, are available in Appendix B.

ANALYTIC STRATEGY

Direct Effects Using the U.S. and South Korean Data

First, using the U.S. student data, I examined research question related to the direct effects of RNs and GTNs on victimization using a Negative Binomial Logit Hurdle modeling approach and the STATA 14.1 software specifically. Since victimization in the U.S. sample is a count measure and frequency distribution of in-school student violent victimization is over-dispersed (the sample variance exceeds its mean), a negative binomial model (NB) is recommended over Poisson regression. However, student violent victimizations in school are heavily skewed towards zero, with many students (87 %) reporting no violent victimizations. Thus, it seems that a zero-inflated extension of the negative binomial model (ZINB) offers one solution[6]. Specifically, the zero-inflated negative binomial model (the ZINB) would present effects of independent variables on: (1) excess zeros, and (2) non-excess zeros and non-zero counts (Loeys, Moerkerke, De Smet, & Buysse, 2012). However, this approach—with "zeros"

[6] Though I did not present ZINB analyses, it is worth noting that when considering the ZINB, Vuong's option of a significant z-test indicates that the ZINB is preferred to the ordinary NB regression. Further, the ZIP option of a significant likelihood ratio test for alpha=0 indicates that the ZINB model is preferred to the ZIP model.

spread across two groups—is not consistent with the purpose of this study.

Beyond the ZINB model, an alternative mixture model—the Negative Binomial Hurdle model (NBLH)— seems more appropriate. As mixture models, both the NBLH and the ZINB separate victimization counts into two components, but the components are subtly, yet importantly different. Specifically, there are no overlapping zeros in the NBLH model and this two-part model presents effects of independent variables on (1) a binary component: the odds of being a count greater than 0 (coded as 1) versus a zero count (coded as 0), and (2) a count component: the number of victimizations among all cases with counts greater than zero. That is, the results from those two separated components in the NBLH emphasize the processes driving no victimization vs. victimization as well as the processes driving a number of victimizations among victims of previous violence. In short, this two-part model estimates (1) the probability of becoming a violent victim or not, and (2) the frequency of victimization among victims. The NBLH components seem much more intuitive than the ZINB model components and much more consistent with the study objectives—which do not include separating out excess zeros as distinct from "other" zeros, but do include assessing the effects of RNs and GTNs on any victimization versus frequency of repeated victimization (also see Appendix C for model specification flow-chart).[7]

Thus, in Stata, I estimate NBLH models that estimate two distinct model components separately (Hilbe, 2014). The likelihood of experiencing victimization is modeled using logistic regression, while the frequency of repeat victimization in the count component is modeled using

[7] While NBLH is more consistent with the theoretical purposes of our study, I did examine model fits across NBLH and ZINB specifications. The Akaike's information criterion (AIC) and Bayesian information criterion (BIC) were very similar. The AIC's were 15,059.29 vs. 15,194.46 for ZINB and NBLH, respectively, and BICs were 15,282.58 vs. 15,352.31, for ZINB and NBLH, respectively.

a zero-truncated negative binomial regression (ZTNB). Therefore, results from logistic regression present the effect of a predictor on the likelihood of experiencing violent victimization and the ZTNB regression examines the effects of predictors on the frequency of repeated violent victimization among students who experienced violent victimization at least once.[8] For both model components, I present exponentiated coefficients. Those values represent the odds ratios (ORs) in logistic regression component of the model and the incident rate ratio (RRs) in the ZTNB regression component. I also account for non-random clustering of cases within schools using the CLUSTER option in Stata.[9]

With the South Korea student data, I estimated only the likelihood of experiencing victimization using logistic regression. Again, comparable analysis (NBLH models) was not possible with the South Korean data due to a large amount of missing data on the frequency of victimization among victims.

Indirect Effects through Risky Lifestyles Using the U.S. Data

Beyond the analyses of direct effects of RNs and GTNs on violent victimization, this study used structural equation modeling (SEM) to test the hypothesis regarding positive indirect effects of RNs and GTNs on victimization frequency through risky lifestyle, controlling for other correlates. SEM modeling in AMOS does not allow binary outcomes, thus we only estimate

[8] It is worth noting that results of NB without zero cases were consistent with those of ZTNB.

[9] I also compared the model fits between restricted models (without two key independent variables of RNs and GTNs) and full models (with RNs and GTNs), using a likelihood-ratio test, for both components of the NBLH specification (i.e., binary and count components). The null hypothesis was rejected at $p \leq 0.001$ in both cases, as the full models were significant improvements over the restricted models. Further, smaller AIC and BIC values from the full models compared to the restricted models indicate that the full models with RNs and GTNs better fit the data (Logistic regression model=AIC: 7,600.39 vs. 7,624.04 and BIC: 7,688.85 vs. 7,697.76; Zero truncated negative binomial model= AIC: 7,594.07 vs. 7,615.50 and BIC: 7,663.46 vs. 7,674.21).

indirect effects in relation to the frequency of violent victimization among the U.S. sample, using the entire frequency range, including zero. The SEM analysis was performed using Amos 24.0 software and the method of estimation was Maximum Likelihood. Since the outcome is a count measure and frequency distribution of student victimization is over-dispersed (the sample variance exceeds its mean), bootstrapping was also applied to provide an unbiased result given the violation of the normality assumption. To assess the fit of the model, we primarily rely upon the most commonly reported fit indices, such as the comparative fit indexes including CFI and TLI, and the root mean square error approximation (RMSEA) (Hooper, Coughlan, & Mullen, 2008). It is generally accepted that values greater than 0.90 for CFI and TLI, and values smaller than 0.07 for RMSEA indicate a good fit of the model to the data (Hooper et al., 2008; Hu & Bentler, 1999; Steiger, 2007).

CHAPTER 4: RESULTS

Chapter 3 introduced two conceptual models developed for examining the study's research questions and hypotheses regarding the relationships between distinct street orientations and student violent victimization at schools, using data on adolescents in the U.S. and South Korea. To review, the first theoretical model presented in Chapter 3 (see Figure 3.1) hypothesized that RNs (Retaliatory Norms) and GTNs (General Toughness Norms) would exert opposite direct effects (negative and positive, respectively) on the likelihood of violent victimization and on the frequency of victimization experiences among victims. These hypothesized effects are examined only in relation to the likelihood of any victimization when the Korean sample is analyzed due to a large amount of missing incident data.

Beyond the direct effects of RNs and GTNs, the second theoretical model presented in Chapter 3 (see Figure 3.2) depicted hypothesized positive indirect effects of RNs and GTNs on the frequency of violent victimization through risky lifestyle. These effects will only be examined using data on adolescents at schools in the U.S. As mentioned in Chapter 3, indirect effects cannot be assessed with Korean data due to the dichotomous measurement of victimization in combination with the AMOS software used for SEM analysis.

This chapter presents the results of analyses conducted to test the effects hypothesized in the two conceptual models. The analyses will proceed in the following manner. First, I will examine the bivariate correlations between the key variables for each dataset. I will then present the results regarding the direct effects of RNs and GTNs using the U.S. sample and NBLH multivariate analysis. This is followed by the presentation of multivariate logistic regression analysis of the direct effects of RNs and GTNs using the Korea sample. Finally, I will present the SEM analysis of the indirect effects of RNs and GTNs using the U.S. sample.

BIVARIATE ANALYSES

U.S. Sample

Table 4.1 displays the bivariate correlation coefficients among the independent variables and dependent variables for the U.S. sample. Most of the correlations between the independent and dependent variables are significant at a probability level of $p < 0.01$ and the directions of the correlations are generally consistent with expectations. Specifically, based on target congruence theory and lifestyle routine activities theory, general toughness norms, delinquency, delinquent peers, and low self-control variables were expected to be positively correlated with student violent victimization and Table 4.1 indicates that these associations were as theoretically predicted. However, the bivariate correlation between RNs and student violent victimization in Table 4.1 is positive and statistically significant (although very weak at 0.096)—opposite to theoretical expectation outlined in Chapters 2 and 3.

Beyond the bivariate correlations between the independent and dependent variables, it is noteworthy that the sizes of the correlations among the independent variables are weak to moderate and are thus not likely to cause any biased results due to multicollinearity. Specifically, in addition to the moderate correlation between RNs and GTNs (0.566), the correlations between RNs, GTNs and low self-control—variables which might be presumed to be closely associated—are modest, at 0.349 and 0.396, respectively.

Table 4.1. Bivariate Correlations Among Study Variables, U.S. Sample

	1	2	3	4	5	6	7	8	9	10	11	12
1.Student violent victimization	1.000											
2.Retaliatory norm	0.096**	1.000										
3.General toughness norm	0.233**	0.566**	1.000									
4.Delinquency	0.493**	0.270**	0.433**	1.000								
5.Delinquent peers	0.203**	0.320**	0.373**	0.382**	1.000							
6.School attachment	-0.195**	-0.307**	-0.415**	-0.300**	-0.337**	1.000						
7.Low self-control	0.202**	0.349**	0.396**	0.347**	0.328**	-0.313**	1.000					
8.Gender	-0.127**	-0.190**	-0.177**	-0.188**	-0.048**	0.331**	-0.053**	1.000				
9.Race	-0.082**	-0.083**	-0.083**	-0.105**	-0.043**	-0.050**	-0.072**	0.010	1.000			
10.Wave2	0.009	-0.015	-0.004	0.020*	-0.140**	-0.032**	0.045**	-0.002	-0.019*	1.000		
11.Wave3	-0.010	-0.017	0.015	-0.026**	0.116**	-0.152**	-0.066**	-0.005	0.017	-0.356**	1.000	
12.Wave4	-0.021*	-0.018*	-0.002	-0.033**	0.145**	0.153**	-0.064**	0.001	0.009	0.000	-0.312**	1.000

*$p \leq 0.05$; ** $p \leq 0.01$.

In addition to bivariate correlations, information on collinearity diagnostics such as tolerances and VIFs are presented in Table 4.2 in order to further assess whether collinearity is a potential problem before conducting the proposed multivariate analysis. Cutoff points for excessive multicollinearity vary across the literature. However, tolerance values or inverse of the variance inflation factors (1/VIF) higher than 0.200 are often considered acceptable (Hutcheson & Sofroniou, 1999; Menard, 1995). As shown in Table 4.2, tolerance values for all independent variables are higher than 0.200. Specifically, the lowest tolerance value is 0.545, and rest of them are higher than 0.619. Similarly, VIFs should not exceed 10, with some suggesting they should not exceed 5 (Bowerman & O'Connell, 1990). Further, the average value of VIF should not be substantially greater than one (Myers, 1990). Table 4.2 presents that the highest value of VIF is 1.836, and the others range from 1.017 to 1.836. Further, the average value of VIF (1.446) is not substantially greater than one. These values suggest that multicollinearity is unlikely to distort the findings.

Table 4.2. Values of Tolerance and Variance Inflation Factor (VIF) for U.S. Sample

	Tolerance	VIF
Retaliatory norms	0.639	1.565
General toughness norms	0.545	1.836
Delinquency	0.705	1.419
Delinquent peers	0.692	1.444
School attachment	0.735	1.361
Low self-control	0.713	1.402
Gender	0.928	1.077
Race	0.984	1.017
wave2	0.642	1.559
wave3	0.622	1.608
wave4	0.619	1.617

Korea Sample

Table 4.3 displays the bivariate correlation coefficients among the independent variables and dependent variable for the Korean sample. The interpretations of the correlations are quite consistent with those based on the U.S. sample. Specifically, based on target congruence theory and lifestyle routine activities theory, general toughness norms, delinquency, delinquent peers, and low self-control variables were expected to be positively correlated with student violent victimization, and Table 4.3 indicates that these associations were as theoretically predicted. However, the bivariate correlation between RNs and student violent victimization in Table 4.3 is positive—opposite to theoretical expectation outlined in Chapters 2 and 3, though it is non-significant.

Again, beyond the bivariate correlations between the independent and dependent variables, it is noteworthy that the sizes of the correlations among the independent variables are weak to moderate and are thus not likely to cause any biased results due to multicollinearity. Specifically, in addition to the moderate correlation between RNs and GTNs as 0.562, the correlations between RNs, GTNs and low self-control (again, variables which might be presumed to be closely associated) are low, at 0.299 and 0.370, respectively.

Table 4.3. Bivariate Correlations Among Study Variables, Korea Sample

	1	2	3	4	5	6	7	8	9	10	11
1.Student violent victimization	1.000										
2.Retaliatory norms	0.011	1.000									
3.General toughness norms	0.068**	0.562**	1.000								
4.Delinquency	0.251**	0.151**	0.188**	1.000							
5.Delinquent peers	0.134**	0.094**	0.129**	0.416**	1.000						
6.School attachment	-0.103**	-0.075**	-0.112**	-0.195**	-0.171**	1.000					
7.Low self-control	0.075**	0.299**	0.370**	0.245**	0.182**	-0.375**	1.000				
8.Gender	-0.074**	0.022*	-0.095**	-0.047**	-0.057**	-0.006	0.014	1.000			
9.wave2	0.011	0.003	0.024**	-0.017	0.034**	0.025**	0.036**	0.003	1.000		
10.wave3	-0.105**	-0.019*	-0.026**	-0.093**	-0.056**	0.025**	-0.014	-0.002	-0.325**	1.000	
11.wave4	-0.133**	-0.013	-0.028**	-0.121**	-0.073**	-0.023**	-0.024**	-0.001	-0.328**	-0.325**	1.000

*p ≤ 0.05; ** p ≤ 0.01.

Collinearity diagnostics (tolerances and VIF values) for the Korea sample are presented in Table 4.4, and the values presented suggest that collinearity is unlikely to be a problem in multivariate analysis. As shown in Table 4.4, tolerance values for all independent variables are higher than 0.200, and all VIFs are lower than 2.00. Specifically, the lowest tolerance value is 0.624 and rest of them range from 0.651 to 0.977. The highest value of VIF is 1.604, and the remaining values range from 1.024 to 1.604.

Table 4.4. Values of Tolerance and Variance Inflation Factor (VIF) for Korea Sample

	Tolerance	VIF
Retaliatory norms	0.667	1.499
General toughness norms	0.624	1.604
Delinquency	0.748	1.337
Delinquent peers	0.812	1.232
School attachment	0.838	1.194
Low self-control	0.720	1.388
Gender	0.977	1.024
wave2	0.666	1.502
wave3	0.658	1.519
wave4	0.651	1.536

MULTIVARIATE ANALYSES

Likelihood and Frequency of Victimization among U.S. Sample

This section presents the results from multivariate analyses of the direct effects of RNs and GTNs, presented in Tables 4.5 through 4.6. Again, the analysis using data on adolescents at schools in the U.S. is conducted with Negative Binomial Logit Hurdle modeling, which splits the distribution of victimization into two components. It is a two-part model where each component can be modeled separately. Specifically, there are the binary and count components. The binary

component models the values of 1 (all counts greater than 0) versus values of zero (Hilbe, 2014). More precisely, using a binary logistic regression (in STATA), the probability of all non-zero counts relative to all zero counts is modeled. This binary logistic regression thus estimates the direct effects of RNs and GTNs on the *likelihood* of experiencing *any* violent victimization. Results from this component are displayed in the Model 1 in Table 4.5.

In a second step involving the non-zero counts only, zero-truncated negative binomial regression (in STATA) is employed in order to examine the direct effects of RNs and GTNs on the *frequency* of violent victimization experiences *specifically among victims*. Model 2 in Table 4.5 presents the results of this analysis. Note that the coefficients reported for both likelihood and frequency of victimization are unstandardized (b) coefficients. Both odd ratios (*ORs*) in Model 1 and incident rate ratios (*RRs*) in Model 2 represent the exponentiated regression coefficients ($\exp^{(b)}$). When expressed in percentages—$100\times(\exp^{(b)}-1)$ — *ORs* reflect the percentage decrease (*OR*<1) or increase (*OR*>1) in the odds of experiencing violent victimization at school while *RRs* reflect the percentage decrease (*RR*<1) or increase (*RR*>1) in the expected frequency of violent victimization experiences at school for each unit increase in key independent variable, while holding other variables in the model constant.

Table 4.5. Negative Binomial Logit Hurdle Model of Student Violent Victimization, U.S Sample

	Model 1 (Any Victimization)			Model 2 (Frequency of Victimization)		
Variable	Coef.	SE	ORs ($exp^{(b)}$)	Coef.	SE	RRs ($exp^{(b)}$)
Key Independent Variables						
Codes of the street						
Retaliatory norms	-0.150***	0.044	0.861	-0.238***	0.051	0.788
General Toughness norms	0.266***	0.062	1.305	0.249***	0.071	1.283
Risky lifestyle						
Delinquency	0.832***	0.110	2.298	0.483***	0.050	1.621
Delinquent peers	0.063***	0.008	1.065	-0.009	0.010	0.991
Control Variables						
Low self-control	0.400***	0.061	1.492	0.072	0.067	1.075
School attachment	-0.551***	0.071	0.576	-0.240**	0.082	0.787
Gender	-0.720***	0.075	0.487	-0.286**	0.109	0.751
Race	-0.090	0.123	0.914	-0.315*	0.131	0.730
Wave2	-0.250**	0.090	0.779	0.032	0.100	1.033
Wave3	-0.545***	0.101	0.580	0.131	0.132	1.140
Wave4	-0.812***	0.117	0.444	0.019	0.148	1.019
n	11,749			1,545		
AIC	7600.39			7594.071		

*p ≤ 0.05; ** p ≤ 0.01; *** p ≤ 0.001.

Model 1 in Table 4.5 demonstrates the effects of RNs and GTNs on the likelihood of experiencing violent victimization. First, Model 1 indicates that adherence to RNs is negatively and significantly associated with the likelihood of violent victimization. More specifically, the chance of experiencing violent victimization decreases by 13.9 % for every unit increase in adherence to RNs. Further, the relationship between GTNs and violent victimization is significant in the positive direction as theoretically expected. Specifically, the chance of experiencing serious violent victimization increases by 30.5 % for every unit increase in

adherence to GTNs.

In terms of other key independent variables, results from Model 1 of Table 4.5 indicate that delinquency and delinquent peer association, as risky lifestyle measures, are positively and significantly related to the likelihood of experiencing violent victimization. In fact, the chance of experiencing violent victimization increases by 129.8 % for every unit increase in delinquency and 6.5 % for every unit increase in delinquent peer association. Model 1 also indicates that for every increment in low self-control, the chance of experiencing victimization increases by 49.2 %. In contrast, with each unit increase in school attachment, the odds of experiencing violent victimization decrease by 42.4%. Further, the chance of being victimized is 51.3% lower for female respondents (relative to male respondents). Respondents in waves 2, 3 and 4 exhibited increasingly lower odds of victimization in comparison to those in wave 1—an effect that suggests that wave/age is inversely related to victimization in the sample (see also Ousey, Wilcox, & Brummel, 2008; Sullivan, Ousey, & Wilcox, 2016).[10]

Next, Model 2 in Table 4.5 displays the direct effects of RNs and GTNs on the frequency of violent victimization experiences specifically among victims. The results in Model 2 support hypotheses regarding the effects of RNs and GTNs on the frequency of violent victimization. Specifically, the finding indicates that the frequency of violent victimization experienced among victims decreases by 21.2 % for every unit increase in adherence to RNs. Further, Model 2 indicates that adherence to GTNs is positively related to the frequency of serious violent victimization experiences among victims—increasing the expected frequency of victimization by 28.3% for each increment increase in adherence to GTNs, controlling for risky lifestyle, low self-

[10] While developmental processes likely drive these trends, patterns of attrition also likely play a small role. Victims at any one wave who remained in the sample through wave 4 had slightly lower rates of victimization than did respondents in that same wave who eventually dropped out of the sample (see Wilcox et al. 2009 for more detail).

control, school attachment, and sociodemographic factors. Overall, RNs and GTNs are related to the likelihood of victimization and the frequency of victimization among victims in opposite directions, as hypothesized.

Regarding risky lifestyle measures, results from Model 2 in Table 4.5 indicate that those who are more committed to delinquent behaviors report more frequent victimization (RR=1.621, a 62.1% increase in frequency per unit increase in delinquent behavior). School attachment is also significantly related to the frequency of violent victimization among victims. The expected frequency of victimization decreases by 21.3 % for each unit increase in school attachment. Further, females report significantly less frequent victimization relative to male adolescents.[11]

Supplemental Analysis of Violent Victimization in U.S. Sample

The analyses above were based on a measure of violent victimization which tapped serious types of violence and resulted in prevalence of victimization more similar to that in the Korean sample. However, that measurement excluded an item asking RSVP students whether they had "punched, slapped, or kicked" someone in the previous year. Despite the potential severity of "punching, slapping, and kicking," the item apparently tapped minor incidents among sampled students, as over one-third of the sample indicated that they experienced such violence within a single school year. In fact, if included in the measurement of violent victimization, nearly 40% of students indicated experience with any violent victimization. Thus, I elected not to include that item in the main analysis presented above, as I felt that it was likely picking up a

[11] I also estimated four wave specific negative binomial-logit Hurdle models. The results across all four wave-specific analyses were largely consistent with the findings using pooled waves. Specifically, adherence to RNs was negatively related to both any victimization and frequency of victimization and adherence to GTNs was positively related to both any victimization and frequency of victimization. Most of these effects were significant at $p<0.05$ across all four waves. An exception was wave 1, where each of the effects were non-significant in wave 1. Also, in wave 4, the effects of GTNs on frequency of victimization was significant only at $p<0.10$.

lot of "everyday bantering" as opposed to violent incidents that might stem from street codes. Nonetheless, I did conduct supplemental analyses in which all models reported above were re-estimated with the fourth physical violence item included for purposes of measuring the dependent variables. Thus, before moving onto the analysis of the direct effects of RNs and GTNs using the Korea sample, I present the supplemental analysis using the U.S. sample using the broader measurement of violent victimization. The results are presented in Table 4.6 (again, coefficients reported for this NBLH analysis are unstandardized).

Table 4.6. Negative Binomial Logit Hurdle Model of Student Violent Victimization, Supplemental Analysis Using Broader Measure of Violent Victimization, U.S Sample

	Model 1 (Any Victimization)			**Model 2 (Frequency of Victimization)**		
Variable	Coef.	SE	ORs ($exp^{(b)}$)	Coef.	SE	RRs ($exp^{(b)}$)
Key Independent Variables						
Codes of the street						
Retaliatory norms	0.070*	0.031	1.073	-0.103***	0.026	0.902
General Toughness norms	-0.037	0.050	0.964	0.171***	0.041	1.186
Risky lifestyle						
Delinquency	1.278***	0.180	3.590	0.516***	0.036	1.675
Delinquent peers	0.051***	0.006	1.052	0.003	0.005	1.003
Control Variables						
Low self-control	0.457***	0.040	1.579	0.154***	0.035	1.166
School attachment	-0.248***	0.053	0.780	-0.259***	0.442	0.772
Gender	-0.746***	0.049	0.474	-0.389***	0.055	0.678
Race	0.121	0.100	1.128	-0.107	0.062	0.899
Wave2	-0.321***	0.050	0.725	-0.090*	0.046	0.914
Wave3	-0.809***	0.070	0.445	-0.149*	0.061	0.862
Wave4	-1.168***	0.079	0.311	-0.225**	0.074	0.799
n	11,749			4,751		
AIC	13693.17			23781.93		

*$p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

Model 1 in Table 4.6 demonstrates the effects of RNs and GTNs on the likelihood of experiencing violent victimization. Unlike the results presented in Table 4.5, Model 1 of Table 4.6 indicates that adherence to RNs is *positively* and significantly associated with the likelihood of violent victimization at $p < 0.05$. More specifically, the chance of experiencing violent victimization *increases* by 7.3 % for every unit increase in adherence to RNs. Thus, this result does not support the hypothesized effect of RNs on the likelihood of violent victimization. Also inconsistent with hypotheses, the effect of GTNs on the likelihood of any victimization is non-significant.

Effects of other measures reported in Table 4.6 are very similar to those reported in Table 4.5 (using the more restricted measure of violent victimization). Model 1 of Table 4.6 indicates that delinquency and delinquent peer association, as risky lifestyle measures, are positively and significantly related to the likelihood of experiencing violent victimization. In fact, the chance of experiencing violent victimization increases by 259.0 % for every unit increase in delinquency and 5.2 % for every unit increase in delinquent peer association. Model 1 also indicates that for every increment in low self-control, the chance of experiencing victimization increases by 57.9 %. In contrast, with each unit increase in school attachment, the odds of experiencing violent victimization decrease by 22.0%. Further, the chance of being victimized is 52.6% lower for female respondents (relative to male respondents).

Next, Model 2 in Table 4.6 displays the direct effects of RNs and GTNs on the frequency of violent victimization experiences specifically among victims. More consistent with hypotheses, the results in Model 2 indicate that the frequency of violent victimization experienced among victims decreases by 9.8 % for every unit increase in adherence to RNs. Further, Model 2 indicates that the frequency of violent victimization among victims increases

by 18.6% for each increment increase in adherence to GTNs. Regarding risky lifestyle measures, results from Model 2 in Table 4.6 indicate that those who are more committed to delinquent behaviors report more frequent victimization (RR=1.675, a 67.5% increase in frequency per unit increase in delinquent behavior). In terms of other control variables, the frequency of violent victimization among victims increases by 16.6 % with each unit increase in low self-control and decreases by 22.8 % for each unit increase in school attachment. Further, females report less frequent victimization relative to male adolescents.

Thus, overall, the findings in the supplemental analyses partially support hypotheses. As expected, RNs were negatively related to the frequency of victimization among victims while GTNs were positively related to the frequency of victimization among victims. However, such hypothesized effects were *not* observed in relation to the likelihood of any victimization when using a broader measure of violent victimization which included common incidents of "punching, kicking, and slapping."

Likelihood of Victimization among Korean Sample

Table 4.7 reports the unstandardized coefficients, standard errors and OR's regarding the effects of RNs and GTNs on the likelihood of experiencing violent victimization among the Korean sample. First, adherence to RNs is negatively and significantly associated with the likelihood of violent victimization. More specifically, the chance of experiencing violent victimization decreases by 16.8 % for every unit increase in adherence to RNs. Thus, consistent with the finding based on U.S. data in Table 4.5, this result supports the expected negative effect of RNs on the likelihood of any victimization. Further, also consistent with the main U.S analysis reported in Table 4.5, the results in Table 4.7 indicate that the relationship between GTNs and violent victimization is significant in the positive direction. Specifically, with each

increment in general toughness norms, the odds of experiencing any violent victimization increase by 16.4% in the Korean sample. In terms of other key independent variables, Table 4.7 shows that delinquency and delinquent peer association (risky lifestyle measures) are positively related to the likelihood of experiencing violent victimization among Korean youths. In fact, the chance of experiencing violent victimization increases by 54.3 % for every unit increase in delinquency and by 9.1 % for every unit increase in delinquent peer association. It should be noted that this latter effect—the positive relationship between violent victimization and delinquent peers—is only significant at a probability level of $p < 0.10$.

Table 4.7. Logistic Regression Model of Student Violent Victimization, Korea Sample

Variable	Coef.	SE	ORs ($exp^{(b)}$)
Key Independent Variables			
Codes of the street			
Retaliatory norms	-0.184***	0.041	0.832
General Toughness norms	0.152***	0.043	1.164
Risky lifestyle			
Delinquency	0.434***	0.038	1.543
Delinquent peers	0.087	0.050	1.091
Other Control Variables			
Low self-control	0.026	0.059	1.026
School attachment	-0.293***	0.043	0.746
Gender	-0.485***	0.064	0.616
Wave2	-0.688***	0.075	0.503
Wave3	-1.540***	0.098	0.214
Wave4	-1.910***	0.111	0.148
n	*12,453*		
AIC	7210.51		

*p ≤ 0.05; ** p ≤ 0.01; *** p ≤ 0.001.

Further, the findings from Model in Table 4.7 indicate that, unlike in the U.S. sample, low self-control is not significantly related to any violent victimization among South Korean students. In contrast, the relationship between the school attachment and the likelihood of violent victimization among Korean youths is similar to those observed in the U.S. sample.

Specifically, with each unit increase in school attachment, the odds of Korean youths experiencing violent victimization decrease by 25.4%. Also similar to the U.S.-based results, the chance of being victimized decreases by 38.4% when the Korean sample respondents are female (relative to male respondents).

Indirect Effects through Risky Lifestyles Using the U.S. Sample

This section presents the results from SEM analyses for the hypothesized indirect effects of RNs and GTNs (as latent constructs) on victimization, through risky lifestyles. As AMOS does not allow binary outcomes, this SEM analysis was only performed in relation to the count measure available in the U.S. sample. Results from SEM analysis of the indirect effects of RNs and GTNs, through risky lifestyle, on the frequency of violent victimization are shown in Figure 4.1. As indicated on the figure, the structural model exhibits the following model fit statistics: $\chi^2(100)$ =4381.864, p<0.000; CFI=0.940; TLI=0.908; RMSEA=0.060, 90% CI [0.058,0.061]. As is typically done in SEM analysis, I presented the Model Chi-Square along with its degree of freedom and associated p value (Hayduk, Cummings, Boadu, Pazderka-Robinson, & Boulianne, 2007; Kline, 1998). However, this statistics has a number of serious limitations associated with it and thus the additional three fit indices were given more weight when assessing model fit.[12] Accordingly, the comparative fit indices (CFI=0.940;TLI=0.909) and the root mean square error of approximation (RMSEA=0.060, 90% CI [0.058,0.061]) suggest acceptable fit (Hooper et al., 2008; Hu & Bentler, 1999; Steiger, 2007). It should also be noted that the final model reflected in Figure 4.1 incorporated correlations between two latent factors and other measured control

[12] One significant limitation with Chi-square test is that it is sensitive to sample size, with the null hypothesis nearly always rejected when large samples are used (Bentler & Bonnet, 1980). Further, this statistical test assumes multivariate normality and may reject the null in models with severe deviations from normality even when the model is properly specified (Mcintosh, 2007)

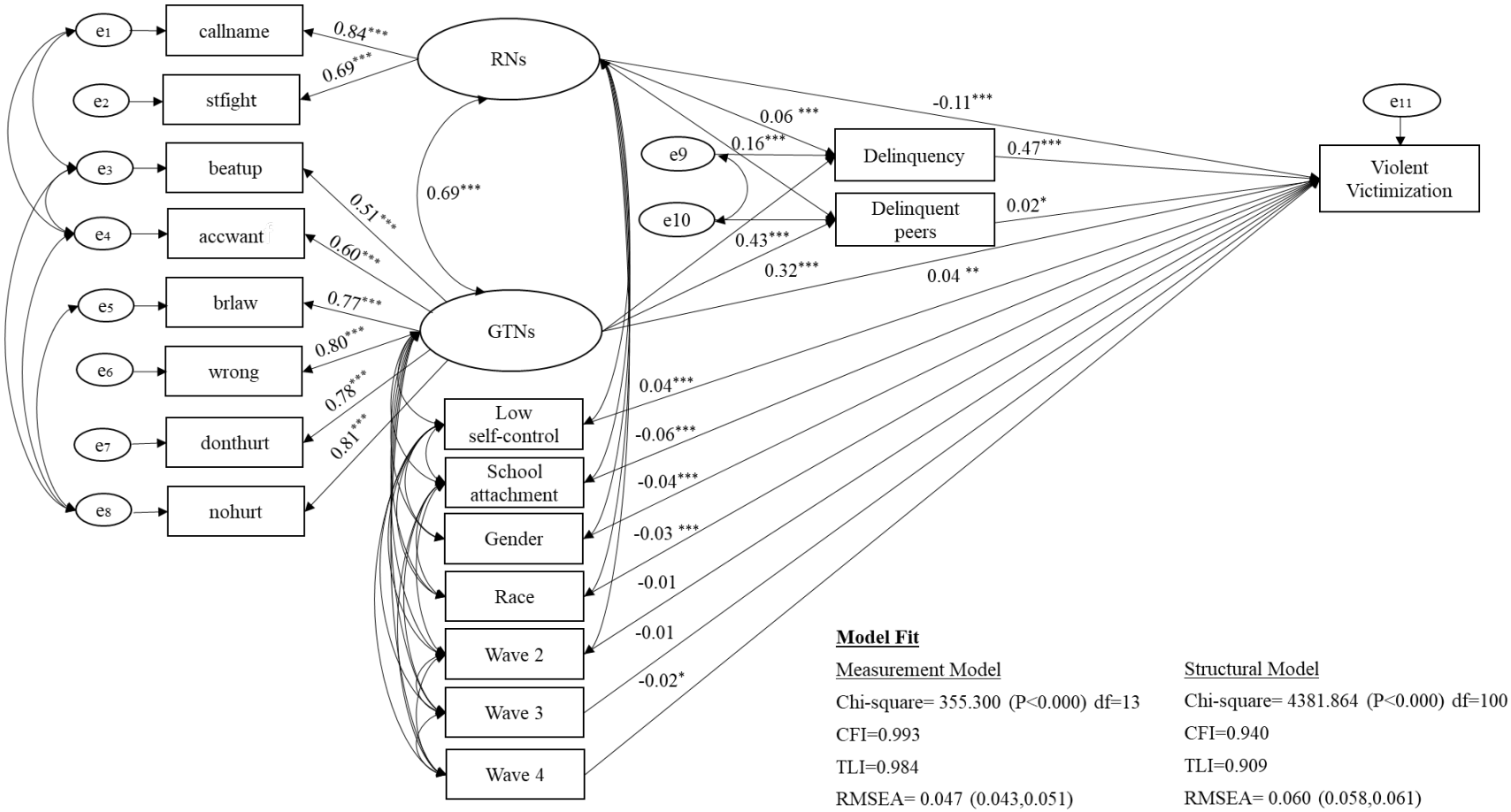


Figure 4.1. Final Model regarding the Indirect Effects of Two Distinct Street Orientations on Violent Victimization through Risky Lifestyles (*N*=11,749)

NOTE: Standardized coefficients are presented.
*$p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

variables based on modification indices provided upon initial model specification. For greater legibility, these correlations are not reported in Figure 4.1, but they are available in Appendix E.

To support the mediational hypotheses, I should expect significant positive relationships between the two latent construct of RNs and GTNs and risky lifestyle measures, including delinquency and delinquent peers. Additionally, I should expect significant positive relationships between these two risky lifestyle measures and violent victimization. Consistent with expectations, the findings in Figure 4.1 indicate that adherence to both RNs and GTNs are positively related to risky lifestyle measures, including both delinquency and delinquent peer associations. Further, both delinquency and delinquent peer association are positively related to violent victimization. Accordingly, these findings indicate the positive indirect effects of RNs and GTNs on victimization, through risky lifestyles. Figure 4.1 also supports the findings from the previous NBLH analysis and shows that net of indirect effects through risky lifestyle, adherence to RNs is directly negatively associated with victimization frequency while adherence to GTNs is directly positively related to victimization frequency, with both effects statistically significant.

The standardized indirect, direct, and total effects of RNs and GTNs on violent victimization are presented in Table 4.8. The value of the combined indirect effect of RNs on victimization through delinquency and delinquent peers is 0.030. However, as the direct effect of RNs on victimization in the negative direction (-0.110) is larger than the positive indirect effect, the total effect is negative (-0.081). In contrast, both the combined indirect effect (0.211), through delinquency and delinquent peers, and direct effect (0.038) of GTNs on victimization are positive, resulting in a positive total effect of 0.249. Overall, Table 4.8 confirms the expectation of a stronger positive indirect effect of GTNs in comparison to RNs on victimization through

risky lifestyles.[13]

Table 4.8. Indirect, Direct, and Total effects of RNs and GTNs on Violent Victimization through Risky Lifestyles (*N*=11,749)

Effects of RNs	
Indirect	0.030
Direct	-0.110
Total	-0.081
Effects of GTNs	
Indirect	0.211
Direct	0.038
Total	0.249

NOTE: All values are standardized.

Supplemental Analysis of Indirect Effects on Violent Victimization

For the additional supplemental analysis, I also examined the indirect effects of RNs and GTNs on the broader measure of violent victimization available through the use of the RSVP data. This supplemental model, shown in Figure 4.2 produced acceptable fit indices overall. Specifically, this final model, shown in Figure 4.2, exhibited the following model fit statistics: $\chi^2(100)$ 4379.223, $p<0.000$; CFI=0.941; TLI=0.909; RMSEA=0.060, 90% CI [0.058,0.061]. As in the Figure 4.1, the comparative fit indices (CFI=0.941;TLI=0.909) and the root mean square error of approximation (RMSEA=0.060, 90% CI [0.058,0.061]) suggest acceptable fit (Hooper et al., 2008; Hu & Bentler, 1999; Steiger, 2007).

[13] I also estimated four wave-specific SEMs. The results across all four wave-specific analyses were similar to the findings using pooled waves, as presented in Figure 4.1, with some notable exceptions. In all waves, adherence to both RNs and GTNs were positively and significantly related to risky lifestyle measures, including both delinquency and delinquent peer association, but these effects were non-significant in wave 2. In terms of direct effects, RNs was directly negatively and significantly related to victimization in all four wave-specific SEMs. On the other hand, the direct effect of GTNs on victimization was always positive but was not significant in any single-wave SEM.

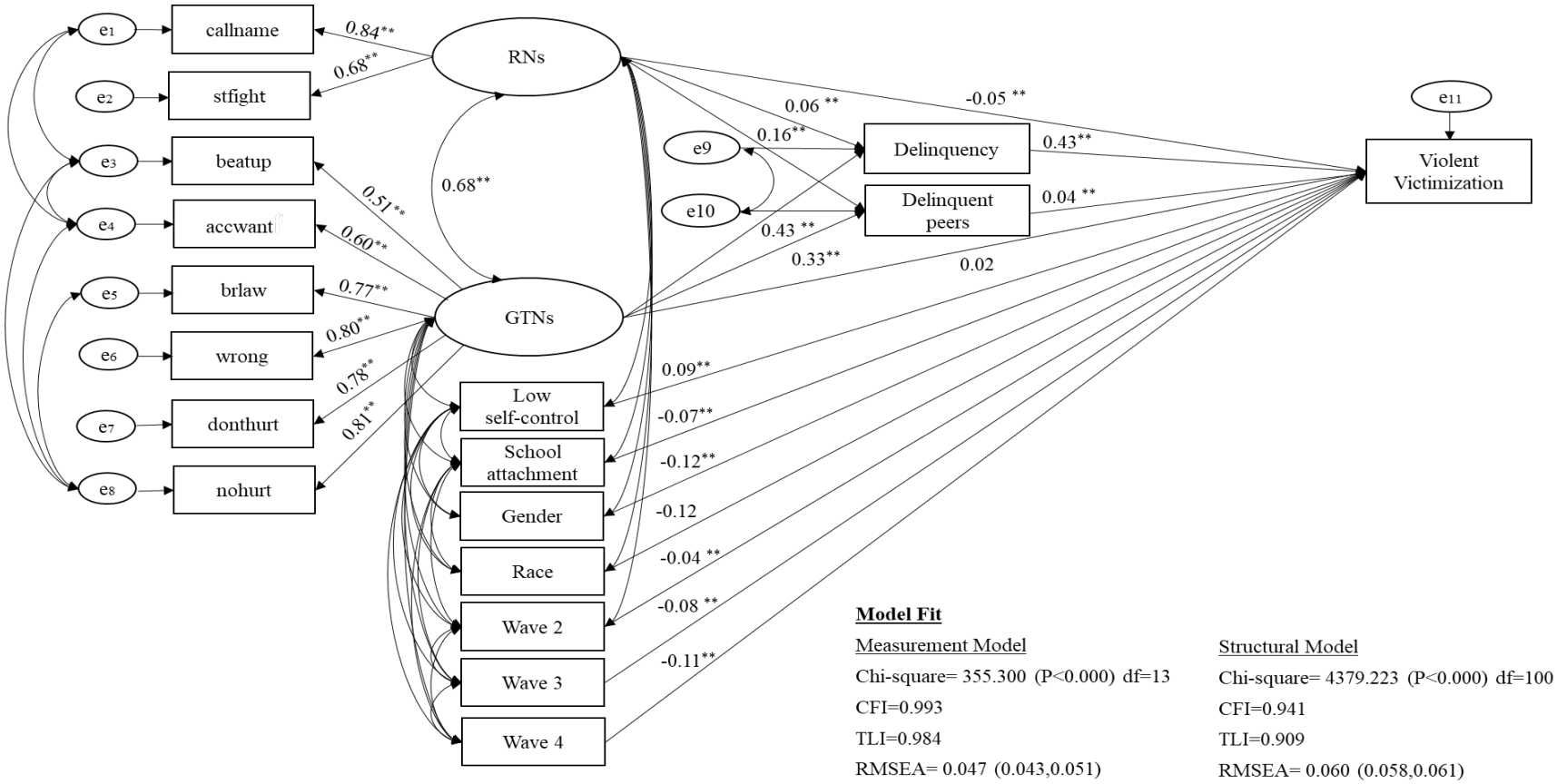


Figure 4.2. Final Model regarding the Indirect Effects of Two Distinct Street Orientations on Broader Measure of Violent Victimization through Risky Lifestyles (*N*=11,749)

NOTE: Standardized coefficients are presented.
*$p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

Consistent with our expectations, the findings in Figure 4.2 also indicate that adherence to both RNs and GTNs are positively related to risky lifestyle measures, including both delinquency and delinquent peer associations. Further, both delinquency and delinquent peer association are positively related to violent victimization. Accordingly, these findings support the hypothesized positive indirect effects of RNs and GTNs on victimization, through risky lifestyles. However, Figure 4.2 only partially supports the findings from the previous NBLH analysis regarding the direct effects of RNs and GTNs, net of indirect effects. Sepcifically, Figure 4.2 shows that adherence to RNs is significantly negatively associated with the victimization, as theoretically expected. However, the expected positive direct relationship between GTNs and victimization is not significant, net of indirect effects through risky lifestyles in this supplemental SEM analysis.

The standardized indirect, direct, and total effects of RNs and GTNs on the broader measure of violent victimization used in the supplemental analysis are presented in Table 4.9. The value of the combined indirect effect of RNs on victimization through delinquency and delinquent peers is 0.029. However, as the direct effect of RNs on victimization in the negative direction (-0.050) is larger than the positive indirect effect, the total effect is negative (-0.020). In contrast, both the combined indirect effect (0.200), through delinquency and delinquent peers, and direct effect (0.016) of GTNs on victimization are positive, resulting in a positive total effect of 0.216. Overall, Table 4.9 also confirms the expectation of a stronger positive indirect effect of GTNs in comparison to RNs on victimization through risky lifestyle.

Table 4.9. Indirect, Direct, and Total effects of RNs and GTNs on Broader Measure of Violent Victimization through Risky Lifestyles (*N*=11,749)

Effects of RNs	
Indirect	0.029
Direct	-0.050
Total	-0.020
Effects of GTNs	
Indirect	0.200
Direct	0.016
Total	0.216

NOTE: All values are standardized

Summary

This chapter provided first, an overview of the bivariate relationships between all study variables for each U.S. and the Korea dataset. Second, I presented a detailed discussion of the multivariate analyses of direct effects of RNs and GTNs using NBLH analysis on the U.S. sample and logistic regression analysis on the Korea sample. Third, I presented the SEM analysis of the indirect effects of RNs and GTNs using the U.S. sample.

The main analysis of direct effects of RNs and GTNs using U.S. sample and NBLH multivariate analysis revealed that, as hypothesized, adherence to RNs reduced not only the likelihood of violent victimization but also the expected frequency of victimization experienced at school among victims, controlling for risky lifestyle, low self-control, school attachment, and sociodemographic factors. Further, as expected, this significant negative effect of RNs was more pronounced in relation to the frequency of victimization among victims in comparison to the likelihood of any victimization. Findings also presented that adherence to GTNs was positively significantly related to not only the likelihood of violent victimization but also the expected frequency of victimization experiences. As predicted, these effects were very similar in magnitude between the likelihood of any victimization and the frequency of victimization. Overall, findings support the hypothesized opposite direct effects of RNs and GTNs on both the

likelihood of victimization and the frequency of victimization among victims. The analysis of direct effects of RNs and GTNs using the Korea sample and logistic regression analysis revealed that adherence to RNs reduced the likelihood of violent victimization while adherence to GTNs increased the likelihood of violent victimization. Thus, results of the opposite direct effects of RNs and GTNs one the likelihood of victimization were consistent with the findings based on U.S. data.

Lastly, beyond two opposite direct effects of RNs and GTNs using each dataset, the analysis of indirect effects of RNs and GTNs using the U.S. sample and SEM analysis revealed that adherence to RNs and GTNs were both positively, indirectly related to the frequency of victimization through risky lifestyle measures. As expected, this positive indirect effect was stronger for GTNs in comparison to RNs. Thus, all hypotheses were strongly supported by the analyses. A more detailed discussion of the results in relation to specific hypotheses, as well as the implications of such results, will be provided in the following Chapter 5.

CHAPTER 5: DISCUSSION AND CONCLUSION

This chapter provides a detailed summary and discussion of the implications and potential limitations of the analyses presented in the previous chapter. This study tested five hypotheses centered around three major research questions. Overall, the findings from these analyses provide a great deal of support for the study's hypotheses, as summarized in Tables 5.1, 5.2, and 5.3 below. Several sections to follow review in greater detail the level of support for the hypotheses associated with each of the three major research questions.

DIRECT EFFECTS OF STREET CODES: U.S. SAMPLE

Research Question 1 (RQ1), presented in Chapter 3 and shown again in Table 5.1, asked whether the distinct aspects of street code orientation (RNs v. GTNs) related differently to the risk of in-school violent victimization in the U.S.-based sample, controlling for other key correlates. Two hypotheses were associated with this research question. The first research hypothesis (H1A) stated that student's adherence to norms supporting retaliatory violence was negatively directly related to both the likelihood of school-based violent victimization and the frequency of victimization among victims. In addition, HIA indicated that the significant negative effect of RNs on victimization was more pronounced in relation to the frequency of repeat victimization among victims in comparison to the likelihood of any victimization. In full support of the first hypothesis, the main analysis using Negative Binomial Logit Hurdle modeling (NBLH), and measures of any/frequency of *serious* violent victimization as the dependent variables, revealed that student's adherence to retaliatory norms reduced the risk of experiencing any victimization while also reducing the frequency of victimization among

victims. Further, student adherence to retaliatory norms after experiencing initial victimization appeared to deter repeated attacks more than any victimization, as the negative coefficient was stronger in the model estimating the frequency of victimization in comparison to the model estimating the likelihood of any victimization (coef. = -0.150 for any victimization; coef. = -0.238 for the frequency of victimization). This finding supports the idea that situational displays of retaliation to an initial victimization might signal invulnerability clearly and, in turn, lower the frequency of subsequent attacks. In contrast, embracing RNs, but not yet having an opportunity to exercise those norms, may be a less obvious signal of invulnerability.

As also shown in Table 5.1, the second research hypothesis (H1B) stated that students' adherence to norms supporting general toughness was positively directly related to both the likelihood of violent victimization and the frequency of victimization among victims. Additionally, the second research hypothesis indicated that these positive effects would be similar in magnitude. Again, in full support of the second hypothesis, the analysis using Negative Binomial Logit Hurdle modeling (NBLH), and measures of any/frequency of *serious* violent victimization as the dependent variables, revealed that student's adherence to general toughness norms increased the risk of experiencing any victimization as well as the frequency of victimization among victims. Furthermore, as reviewed in Table 5.1, these effects were very similar in magnitude (coef. = 0.266 for any victimization; coef. = 0.249 for the frequency of victimization).

Table 5.1 Direct Effects of Street Codes: U.S. Sample

Research Question	Hypotheses	Degree of Support	
		Violent Victimization	Broader Measure of Violent Victimization
RQ1: Are distinct aspects of street code orientation related differently to the risk of in-school violent victimization in a U.S.-based sample, controlling for other key correlates?	H1A: Controlling for risky lifestyle, low self-control, social bonding, and sociodemographic factors, adherence to norms supporting retaliatory violence is negatively directly related to both the likelihood of school-based violent victimization and the frequency of victimization among victims, with the latter effect being more pronounced.	Fully supported	Partially supported
	H1B: Controlling for risky lifestyle, low self-control, social bonding, and sociodemographic factors, adherence to norms supporting general toughness is positively directly related to both the likelihood of violent victimization and the frequency of victimization among victims, with both effects being similar in magnitude.	Fully supported	Partially supported

Recall that supplemental analysis of the likelihood and frequency of victimization was conducted using a broader measure of violent victimization (which included prevalent and apparently much less serious forms of aggressive behavior). The results from this analysis are also summarized in Table 5.1. In partial support of the first hypothesis (H1A), the supplemental analysis revealed that student adherence to retaliatory norms reduced the frequency of victimization among victims. However, such hypothesized effects were not observed in

relationship to the likelihood of any victimization (in fact, RNs were positively related to victimization in the supplemental analysis). In partial support of the second hypothesis (H1B), the supplemental analysis revealed that student adherence to general toughness norms increased the frequency of victimization among victims. However, once again, such hypothesized effects were not observed in relation to the likelihood of any victimization.

DIRECT EFFECTS OF STREET CODES: SOUTH KOREAN SAMPLE

Research Question 2 (RQ2), presented in Chapter 3 and shown again in Table 5.2, asked whether the distinct aspects of street code orientation (RNs v. GTNs) related differently to the risk of in-school violent victimization in South Korea-based sample, controlling for other key correlates. Two hypotheses were associated with this research question. The first research hypothesis (H2A) stated that student adherence to norms supporting retaliatory violence was negatively directly related to the likelihood of school-based violent victimization. Again, only the likelihood of victimization can be assessed with the Korean data due to the data measurement restrictions within the Korean sample (a large amount of missing incident data). In full support of the first hypothesis, the analysis using logistic regression, and a measure of any violent victimization as the dependent variable, revealed that student adherence to retaliatory norms reduced the risk of experiencing any victimization. Importantly, this finding was consistent with the finding from the main analysis based on U.S. data.

Table 5.2 Direct Effects of Street Codes: South Korean Sample

Research Question	Hypotheses	Degree of Support
RQ2: Are distinct aspects of street code orientation related differently to the risk of student violent victimization in a South Korean sample controlling for other key correlates?	H2A: Controlling for risky lifestyle, low self-control, social bonding, and sociodemographic factors, adherence to norms supporting retaliatory violence is negatively directly related to the likelihood of school-based violent victimization.	Fully supported
	H2B: Controlling for risky lifestyle, low self-control, social bonding, and sociodemographic factors, adherence to norms supporting general toughness is positively directly related to the likelihood of violent victimization.	Fully supported

As also shown in Table 5.2, the second research hypothesis associated with RQ2 stated that student adherence to norms supporting general toughness was positively directly related to the likelihood of violent victimization. Again, only the likelihood of victimization can be assessed with the Korean data due to the data measurement restrictions within the Korean sample (a large amount of missing incident data). In full support of the second hypothesis, the analysis using logistic regression, and a measure of any violent victimization as the dependent variable, revealed that student adherence to general toughness norms increased the risk of experiencing any victimization. This finding was also consistent with the finding from the main analysis using the U.S sample.

INDIRECT EFFECTS OF STREET CODES: U.S. SAMPLE

Beyond research questions regarding direct effects of RNs and GTNs, Research Question 3 (RQ3), presented in Chapter 3 and shown again in Table 5.3, asked whether the distinct aspects of street code orientation (RNs v. GTNs) indirectly related to the risk of in-school violent victimization through risky lifestyle in the U.S.-based sample, controlling other key correlates.

Again, indirect effects cannot be assessed with the Korean data due to the dichotomous measurement of victimization, in combination with the AMOS software used for SEM. One hypothesis was associated with this research question and this research hypothesis (H3) stated that student's adherence to norms supporting retaliatory violence and norms supporting general toughness would be positively indirectly related to the frequency of violent victimization, through risky lifestyle. In addition, H3 indicated that the significant positive indirect effect of GTNs would be stronger than the indirect effect of RNs due to the stronger positive relationship between GTNs and risky lifestyle.

Table 5.3 Indirect effects of Street Codes: U.S. Sample

Research Question	Hypotheses	Degree of Support	
		Violent Victimization	Broader Measure of Violent Victimization
RQ3: Are distinct aspects of street code orientation indirectly related to the risk of in-school violent victimization through risky lifestyle in a U.S.-based sample controlling other key correlates?	H3*:* Controlling for low self-control, social bonding, and sociodemographic factors, adherence to norms supporting retaliatory violence and norms supporting general toughness are positively indirectly related to frequency of violent victimization, through risky lifestyle, with the indirect effect of GTNs being stronger (due to the stronger positive relationship between GTNs and risky lifestyle).	Fully supported	Fully supported

In full support of the hypothesis, the main analysis using Structural Equation Modeling (SEM) and a measure of frequency of *serious* violent victimization as the dependent variable revealed that the relationships between RNs/ GTNs and risky lifestyles, including both

delinquency and delinquent peers, are significantly positive and the relationships between these two risky lifestyle measures and frequency of victimization are also significantly positive. Thus, both RNs and GTNs were positively indirectly related to violent victimization through risky lifestyles, as predicted. Additionally, the indirect effect of RNs through risky lifestyles was 0.030, while the indirect of GTNs through risky lifestyles was 0.211. Thus, as hypothesized, the indirect effect of GTNs on victimization through risky lifestyles was stronger in comparison to RNs. This was primarily driven by the fact that the relationships between GTNs and risky lifestyles, including both delinquency and delinquent peers were stronger in comparison to the relationships between RNs and delinquency/delinquent peers (GTNs: coef. = 0.43 for delinquency and 0.32 for delinquent peers v. RNs: coef.=0.06 for delinquency and 0.16 for delinquent peers). Thus, while adherence to both norms can increase victimization through engagement in risky lifestyles, this appears especially true for people who adhere to more general toughness norms as opposed to more situationally-specific violent norms.

Additional supplemental SEM analysis was also conducted using the broader measure of violent victimization, and the results of this analysis are also summarized in Table 5.3. In full support of the hypothesis (H3), the supplemental analysis revealed that the relationships between RNs/ GTNs and risky lifestyles, including both delinquency and delinquent peers, are significantly positive. Further, the relationships between these two risky lifestyle measures and frequency of victimization are also significantly positive. Hence the indirect effects of both RNs and GTNs, through risky lifestyle, were positive. Additionally, the indirect effect of RNs through risky lifestyles was 0.029, while the indirect of GTNs through risky lifestyles was 0.200. Thus, as hypothesized, the indirect effect of GTNs on victimization through risky lifestyles was stronger in comparison to RNs. Again, this was primarily driven by the fact that the

relationships between GTNs and risky lifestyles, including both delinquency and delinquent peers were stronger in comparison to the relationships between RNs and delinquency/delinquent peers (GTNs: coef. = 0.43 for delinquency and 0.33 for delinquent peers v. RNs: coef.=0.06 for delinquency and 0.16 for delinquent peers). Accordingly, these findings were consistent with the findings from the main analysis of indirect effects using the U.S. sample but a measure of *serious* violent victimization.

IMPLICATIONS FOR THEORY AND PRACTICE

This section discusses the implications the research presented in this dissertation has for theory and practice. First, the implications for the theory are discussed highlighting the contributions this research has made in the examination of school-based adolescent violent victimization in light of Anderson's code of the street thesis. Second, implications for practice are presented.

Implications for Theory

The results from this dissertation have six major implications for theory: 1) This dissertation supports the ideas that there are two distinct street orientations; 2) These two street codes are directly differently related to student victimization, thus providing one possible explanation for conflicting results across previous studies; 3) These findings of opposite direct effects of RNs and GTNs on victimization are consistent with target congruence theory (Finkelhor & Asdigian, 1996); 4) The two dimensions of street values are positively indirectly related to student victimization through risky lifestyles and these findings of indirect effects of RNs and GTNs on victimization are in conjunction with lifestyle-routine activities theory (L-RAT); 5) The findings reported here support a broader view of the applicability of Anderson's

Code of the Street thesis—a view that extends beyond the inner-city and into the hallways of schools in communities that span the rural-urban continuum; 6) This dissertation presents similar effects of street codes on victimization at school in the U.S. and South Korea and thus provides evidence that the U.S. and contemporary Korean context share similarities in terms of correlates of school based violent victimization despite historical cultural difference. Below, I provide a bit more detail regarding each of these implications.

First, this research demonstrates that there are two distinct dimensions of the code and they are retaliatory norms (RNs) and general toughness norms (GTNs). This dissertation claims that Anderson (1991) implicitly discussed two distinct types of street values in his ethnographic study and that previous research on the effects of street values has largely ignored this distinction. As alluded in Anderson's street code thesis, one aspect of Anderson's code of the street involves retaliatory norms (RNs), which largely serve the purpose of self-protection against repeated victimization. Thus, RNs aligns with Anderson's description of "decent" individuals who must sometimes code switch and behaviorally express retaliatory norms for self-protection but who also typically adhere to conventional values. In addition to retaliatory norms, Anderson (1999) also described another aspect of the code of the street that I term "general toughness norms" (GTNs). According to Anderson, youths—particularly those in street families—internalize GTNs, displays of aggression, toughness and sexual prowess as common ways to assert oneself in the "campaign for respect." Beyond Anderson's work on the code within disadvantaged urban neighborhoods, other work also supports the idea that there are two types of subcultural violent norms (Agnew 1994; Markowitz & Felson, 1998; O & Wilcox, 2018). This dissertation supports this work and provides additional empirical evidence of two distinct street orientations (RNs and GTNs), though there is a moderate correlation between the

two scales. Overall, given the theoretical and empirical evidence, this research acknowledges that RNs and GTNs are distinct.

Second, the findings reported in this dissertation suggest that adherence to RNs and GTNs are directly differently related to school-based adolescent violent victimization. Many of previous qualitative work supports the idea that commitment to retaliatory norms might provide protection against victimization (Baron et al., 2001; Rich & Grey, 2005). In contrast, most quantitative studies of the effect of street code on victimization to date provide little support for the idea that RNs protect against victimization while GTNs promote it. However, such differential effects would be difficult to discern, if they existed, because almost all previous quantitative studies have used measures of street codes that combine items tapping both RNs and GTNs (e.g. Schreck et al., 2012; Stewart et al., 2006; Zavala & Spohn, 2013). Thus, by separating the code into two distinct street orientations, this research offers one explanation for conflicting results (in comparison to qualitative work) across previous studies that examine the relationship between the code and victimization using single indexes that combined these two types of norms.

Third, these findings of opposite direct effects of RNs and GTNs on victimization using U.S. sample and Korea sample are consistent with target congruence theory (Finkelhor & Asdigian, 1996). More specifically, the findings of opposite direct effects of RNs and GTNs on victimization support the idea that RNs overlap with target congruence theory's dimension of target vulnerability—that such norms send a message of target *in*vulnerability. Thus, adherence to retaliatory norms is likely to lower the risk of victimization and repeated victimization among victims. Additionally, our findings support the idea that GTNs overlap with target congruence theory's concepts of target antagonism and target gratifiability. Thus, displays of GTNs are

potentially provocative and make one likely to be perceived as a valuable target in the game of give-and-take that is often behind the campaign for respect. Thus, adherence to GTNs increases the risk of victimization.

Fourth, this research demonstrates that two dimensions of street values are positively indirectly related to student victimization through risky lifestyles, and these findings of indirect effects of RNs and GTNs on victimization align with lifestyle-routine activities theory (L-RAT) (Cohen et al., 1981). L-RAT, quite simply, claims that a risky lifestyle which exposes one or puts one in proximity to motivated offenders without suitable guardianship increases the risk of victimization. Indeed, numerous studies support the linkage between participation in the deviant activity and school-based violent victimization (Augustine et al., 2002; Burrow & Apel, 2008; Wilcox et al., 2009; Zaykowski & Gunter, 2011). Thus, to the extent that RNs and GTNs increase participation in the deviant activity, positive indirect effects of RNs and GTNs on victimization via risky lifestyle is expected. Thus, this dissertation provides additional evidence in support of L-RAT and suggests a linkage between the code of the street theory and L-RAT.

Fifth, overall, the findings reported in this dissertation do support a broader view of the applicability of Anderson's Code of the Street thesis—a view that extends beyond the inner-city and into the hallways of schools in communities that span the rural-urban continuum. Among the previous studies of the street codes-victimization link to date, only Schreck and colleagues (2012) have examined street values in relation to adolescent violent victimization at schools—an important step in broadening the applicability of street values to understanding the risk of violent victimization beyond disadvantaged inner-city communities. However, their work did not focus on the likelihood or frequency of victimization, but on the likelihood of experiencing violent versus non-violent victimization. Also, much like the street code literature more generally,

Schreck et al. (2012) used a unidimensional measure of street values, thus masking potentially distinct effects of RNs versus GTNs on violent victimization specialization (including victimization at school). Using the same RSVP data as Schreck et al. (2012), this study seeks to unpack the relationship between street codes and school-based violent victimization.

Sixth, this dissertation drew upon previous Korean studies that looked at the correlates of adolescent victimization from lifestyle and target congruence theory and found results quite consistent with studies using U.S samples (Jung & Park, 2010; Noh, 2007; Noh & Lee, 2003). In line with this research, I expected street codes to relate to victimization similarly across the U.S. and Korean samples. Accordingly, this dissertation indirectly raised the issue of whether the historical cultural differences between the U.S. and South Korea had changed to the point that the U.S. and contemporary Korea should lead to bring about similarities in findings across U.S. and Korean samples. The findings in this dissertation, also shown in Table 5.4, provide support for more convergence than divergence across U.S. and Korean cultures.

Table 5.4. The Coefficient for U.S. v. Korea sample

	Violent Victimization in the U.S.	Violent Victimization in Korea
Street Codes	Likelihood of Victimization	Likelihood of Victimization
Retaliatory norms	-0.150	- 0.184
General Toughness norms	0.266	0.152

Further, apart from cultural convergence, consistent findings across U.S. and Korea samples might imply that cultural theories are not at work. Instead, findings could support that it is simply human nature for potential victims to enageg in decision-making, consistent with choice theory, and adopt different norms and reactions depending on their calculation of benefits and cost when confronted (Schreck & Berg, forthcoming). This appears especially true for people who adhere to situational retaliatory norms. That is, those who perceive more benefits

from adhering to retaliatory norms would adopt the norms and signal invulnerability to motivated offenders.

Implications for Policy and Practice

In terms of practical implications, the findings reported in this dissertation suggest that tackling GTNs, and the behavioral implications thereof (e.g., belligerence, antagonism), are particularly promising avenues for reducing school-based victimization. In fact, numerous existing school-based prevention programs do this, directly and indirectly, in a variety of ways. For instance, some of the more successful school-based violence prevention programs focus on student-level behavioral modification, social competency skill-building, and peer sociability—all of which would address the negative behaviors associated with adherence to GTNs (e.g., Gottfredson, 2001; Gottfredson, Cook, & Na, 2012). Other successful programs focus on altering the school environment so that it more effectively emphasizes positive norms, behavioral management, and academic achievement—thus providing students with positive avenues for achieving respect so that adherence to GTNs are less needed, useful, and/or tolerated (Gottfredson, 2001; Gottfredson et al., 2012). The findings reported here reinforce the value of such programming.

Beyond programming addressing the harmful effects of GTNs, the results reported in this dissertation regarding RNs imply that *in certain instances* (i.e., specifically when confronted with an attack), sending a strong message that one is willing to defend oneself can be beneficial. Obviously, care is needed in discussing this implication, as this research does not intend to suggest that the findings support unfettered violence in the name of self-protection. Rather, this dissertation views the findings reported here as consistent with many self-defense protocols which support defensive action in particularly dangerous situations (i.e., telling potential victims

to walk assertively, shout down would-be attackers, fight back, etc.). At the same time, the findings in this research are also clear that expressing RNs is often associated with a delinquent lifestyle, which is not protective and, instead, enhances the risk of victimization. Along these lines, responding to provocations with violence, when also involved in a delinquent lifestyle, might lead to a "give-and-take" cycle of violence. Thus, schools should stress non-violent conflict resolution skills and be particularly mindful (and intervene early) when conflicts occur, especially among the more troubled students.

LIMITATIONS OF STUDY AND DIRECTIONS FOR FUTURE RESEARCH

While this dissertation does address important research questions and does contribute to the body of work examining school-based violent victimization at schools especially in light of Anderson's code of the street thesis, a few limitations deserve attention. Further, it is important to qualify implications and contributions of this research by noting the need for additional research. This section briefly presents the limitations and then discusses how these limitations can be addressed in future research. Specifically, the major limitations largely involve the generalizability of findings, the measurement of victimization, and the cross-sectional nature of the analysis. Accordingly, the avenues for future research involve the recommendations or consideration regarding these limitations.

Generalizability of the findings

First, the data used in this dissertation come primarily from students in one state—Kentucky in the U.S. Thus, the U.S.-based findings are not necessarily generalizable to students in other geographic, socioeconomic, and cultural contexts in U.S. Similar findings across U.S. and Korea samples might partially compensate for this potential limitation, but further research is

still needed to examine how the street codes might play a role differently in the examination of violent victimization across various contexts within the U.S. For example, in stark contrast to the negative direct effect of RNs on victimization reported here, Stewart, Schreck, and Simon (2006) argued that, in neighborhoods where the street culture is particularly pervasive, decent youths' temporary adoption of street values (i.e., "code switching") is likely not interpreted (on the part of offenders) as an ability to take care of oneself, and thus such youths remain vulnerable. To better understand the potential for setting-specific effects, a valuable direction for future research would thus be multilevel studies that consider the extent to which the neighborhood, or environmental climate more broadly, might moderate the effects of RNs and GTNs on victimization.

Measurement of victimization

Another potential limitation of the present research involves measurement of victimization. The U.S. data are somewhat restrictive in terms of the types of *physically violent* victimization assessed. This dissertation used three of the four types available in the data—robbery, confronted with a gun, and confronted with a weapon other than a gun. One additional measure which asked students about experiences with being "punched, slapped, kicked" was available. However, despite the potential severity of those behaviors, the item apparently tapped minor incidents among sampled students, as over one-third of the sample indicated that they experienced such violence within a single school year. In fact, if included in the measurement of violent victimization, nearly 40% of students indicated experience with any violent victimization. This dissertation elected not to include that item in the main analyses presented here, as it was likely picking up a lot of "everyday bantering" as opposed to violent incidents that might stem from street codes. Nonetheless, I did conduct supplemental analysis in which all

models reported here were estimated with the fourth physical violence item included for purposes of measuring the dependent variables. Those supplemental models in the supplemental analysis section revealed similar effects to those presented herein for nearly all variables with one important exception: retaliatory norms was *positively* related rather than negatively related to the likelihood of any victimization (though, similar to what is reported here, it was still negatively related to the frequency of victimization). This one exception does suggest that it might be useful for future work to consider whether RNs, in particular, might make one differentially invulnerable to various types of victimization. This is an avenue for future research also supported by Schreck and colleague's previous work indicating that adherence to a street code (one with RNs and GTNs combined) distinguished students who experienced violent, as opposed to non-violent victimization.

Intra-individual change of RNs, GTNs, and violent victimization across waves

Lastly, though student data was collected across four waves of the U.S. sample and Korea sample, the purpose of the present research was not on an intra-individual change in RNs, GTNs, and violent victimization across waves. Rather, initial interest of this dissertation was in examining the potentially distinct effects of RNs and GTNs on victimization within any one wave. While I see this as a valuable first-step in examining the links to the victimization of RNs versus GTNs, I do realize that potentially important developmental, dynamic processes were not addressed through my approach which pooled all four waves. To partially compensate for this potential limitation, I did conduct supplemental wave-specific analyses using the U.S. data and many of the findings from these analyses were consistent with those reported in the tables in Chapter 4 (also see footnote 11 and 13 for results). Nonetheless, explicit theory (and testing thereof) of time-varying effects of RNs and GTNs on intra-individual trajectories of

victimization is a worthy direction for future research.

CONCLUSION

Despite the aforementioned limitations, this dissertation makes important contributions to research on adolescent victimization, code of the street theory, target congruence theory, lifestyle-routine activities theory, and cross-national generalizability of theory. In short, this research highlights (1) the value of acknowledging that there are two dimensions of the street values in light of Anderson's code of the street thesis, (2) that these two dimensions have distinct direct effects on school-based violent victimization that make sense through the lens of target congruence theory, (3) that these two dimensions of the code have indirect effects that vary in magnitude in a manner that is consistent with the logic of lifestyle-routine activities theory, and (4) that these two dimensions are related to adolescent victimization in similar ways in U.S. and Korean contexts.

REFERENCES

Agnew, R. (1994). The techniques of neutralization and violence. *Criminology*, *32*(4), 555-580.

Akers, R. L., Krohn, M. D., Lanza-Kaduce, L., & Radosevich, M. (1979). Social learning and deviant behavior: A specific test of a general theory. *American sociological review*, *44*(4), 636-655.

Allen, A. N., & Lo, C. C. (2012). Drugs, guns, and disadvantaged youths: Co-occurring behavior and the code of the street. *Crime & Delinquency*, *58*(6), 932-953.

Anderson, E. (1999). *Code of the street: Decency, violence, and the moral life of the inner city.* New York: W.W. Norton and Company

Augustine, M. C., Wilcox, P., Ousey, G. C., & Clayton, R. R. (2002). Opportunity theory and adolescent school-based victimization. *Violence and Victims*, *17*(2), 233-253.

Ball-Rokeach, S. J. (1973). Values and violence: a test of the subculture of violence thesis. *American sociological review*, *38*(6), 736-749.

Baron, S. W., Kennedy, L. W., & Forde, D. R. (2001). Male street youths' conflict: The role of background, subcultural, and situational factors. *Justice Quarterly*, *18*(4), 759-789.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological bulletin*, *88*(3), 588-606.

Bernard, T. J. (1990). Angry aggression among the “truly disadvantaged”. *Criminology*, *28*(1), 73-96.

Bernburg, J. G., & Thorlindsson, T. (2005). Violent values, conduct norms, and youth aggression: A multilevel study in Iceland. *The Sociological Quarterly*, *46*(3), 457-478.

Brezina, T., Agnew, R., Cullen, F. T., & Wright, J. P. (2004). The code of the street: A quantitative assessment of Elijah Anderson’s subculture of violence thesis and its contribution to youth violence research. *Youth Violence and Juvenile Justice*, *2*(4), 303-328.

Boivin, M., Hymel, S., & Bukowski, W. M. (1995). The roles of social withdrawal, peer rejection, and victimization by peers in predicting loneliness and depressed mood in childhood. *Development and Psychopathology*, *7*(4), 765-785.

Boulton, M. J., & Smith, P. K. (1994). Bully/victim problems in middle-school children: Stability, self-perceived competence, peer perceptions and peer acceptance. *British journal of developmental psychology*, *12*(3), 315-329.

Boulton, M. J., & Underwood, K. (1992). Bully/victim problems among middle school children. *British Journal of Educational Psychology*, *62*(1), 73-87.

Bowerman, B.L., & O'Connell, R.T. (1990). *Linear statistical models: An applied approach*, 2nd edition. Belmont, CA: Duxbury.

Bowers, K. (2014). Risky facilities: Crime radiators or crime absorbers? A comparison of internal and external levels of theft. *Journal of quantitative criminology*, *30*(3), 389-414.

Brain, P. F. (1997). Emotional and biological consequences of threat and attack on victims. In J. S. Grisolia, J. L. Sanmartin, J. L. Lujan, & S. Grisolia. (Eds.), *Violence: From biology to society* (pp. 115–124). Amsterdam: Elsevier Science.

Brantingham, P., & Brantingham, P. (1995). Criminality of place. *European Journal on Criminal Policy and Research*, *3*(3), 5-26.

Brookman, F., Bennett, T., Hochstetler, A., & Copes, H. (2011). The 'code of the street' and the generation of street violence in the UK. *European Journal of Criminology*, *8*(1), 17-31.

Brunson, R. K., & Miller, J. (2009). Schools, neighborhoods, and adolescent conflicts: A situational examination of reciprocal dynamics. *Justice Quarterly*, *26*(2), 183-201.

Burrow, J. D., & Apel, R. (2008). Youth behavior, school structure, and student risk of victimization. *Justice Quarterly*, *25*(2), 349-380.

Cha, J. (1994). Aspects of individualism and collectivism in Korea. In U. Kim, H. C. Triandis, & H. S. Hakho (Eds.), *Individualism and collectivism: Theory, method, and applications* (pp. 157–174). Thousand Oaks, CA, USA: Sage.

Chen, X. (2000). Growing up in a collectivistic culture: Socialization and socio-emotional development in Chinese children. In A. L. Comunian & U. P. Gielen (Eds.), *Human developmental in crosscultural perspective* (pp. 331–353). Lengerich, Germany: Pabst Science Publishers.

Chen, X., & Rubin, K. H. (1992). Correlates of peer acceptance in a Chinese sample of six-year-olds. *International Journal of Behavioral Development*, *15*(2), 259-273.

Cohen, L. E., Kluegel, J. R., & Land, K. C. (1981). Social inequality and predatory criminal victimization: An exposition and test of a formal theory. *American sociological review*, *46*(5), 505-524.

Colder, C. R., Mott, J., Levy, S., & Flay, B. (2000). The relation of perceived neighborhood danger to childhood aggression: A test of mediating mechanisms. *American journal of community psychology*, *28*(1), 83-103.

Deryol, R., Wilcox, P., & Dolu, O. (2017). School-based violent victimization in Turkey: An examination of the cross-national generality of lifestyle-routine activities and self-control theories. *Victims & Offenders*, *12*(6), 913-938.

Farver, J. A. M., Kim, Y. K., & Lee-Shin, Y. (2000). Within cultural differences: Examining individual differences in Korean American and European American preschoolers' social pretend play. *Journal of Cross-Cultural Psychology*, *31*(5), 583-602.

Felson, R. B. (1982). Impression management and the escalation of aggression and violence. *Social Psychology Quarterly*, *45*(4), 245-254.

Felson, M., & Clarke, R. V. (1998). *Opportunity Makes the Thief: Practical Theory for Crime Prevention*. Policing and Reducing Crime Unit: Police Research Series, Paper 98. London, U.K.: Home Office. Home Office.

Felson, R. B., Liska, A. E., South, S. J., & McNulty, T. L. (1994). The subculture of violence and delinquency: Individual vs. school context effects. *Social Forces*, *73*(1), 155-173.

Finkelhor, D. & Asdigian, N. (1996). Risk factors for youth victimization: Beyond a Lifestyle/Routine Activities Theory Approach, *Violence and Victims*, *11*(1), 3-19.

Fleisher, M. S. (1995). *Beggars and thieves: Lives of urban street criminals*. University of Wisconsin Press.

Gottfredson, D. C. (2001). *Schools and Delinquency*. New York: Cambridge University Press.

Gottfredson, D. C., Cook, P. J., & Na, C. (2012). Schools and prevention. In B. C. Welsh & D. P. Farrington (Eds.), *The Oxford Handbook of Crime Prevention* (pp.269-287), Oxford: Oxford University Press.

Graham, S., & Juvonen, J. (1998). Self-blame and peer victimization in middle school: An attributional analysis. *Developmental psychology*, *34*(3), 587-599.

Han, J. S. (2002). *Bullying and educational collapse in Korea*. Seoul: Jipmoondang.

Hayduk, L., Cummings, G., Boadu, K., Pazderka-Robinson, H., & Boulianne, S. (2007). Testing! testing! one, two, three–Testing the theory in structural equation models! *Personality and Individual Differences*, *42*(5), 841-850.

Heimer, K. (1997). Socioeconomic status, subcultural definitions, and violent delinquency. *Social forces*, *75*(3), 799-833.

Heimer, K., & De Coster, S. (1999). The gendering of violent delinquency. *Criminology*, *37*(2), 277-318.

Henson, B., Wilcox, P., Reyns, B. W., & Cullen, F. T. (2010). Gender, adolescent lifestyles, and violent victimization: Implications for routine activity theory. *Victims & Offenders*, *5*(4), 303-328.

Hilbe, J. M. (2014). *Modeling count data*. Cambridge University Press.

Hindelang, M. J. (1970). The commitment of delinquents to their misdeeds: do delinquents drift? *Social Problems*, *17*(4), 502-509.

Hong, J. S., & Eamon, M. K. (2009). An ecological approach to understanding peer victimization in South Korea. *Journal of Human Behavior in the Social Environment*, *19*(5), 611-625.

Hodges, E. V., Malone, M. J., & Perry, D. G. (1997). Individual risk and social risk as interacting determinants of victimization in the peer group. *Developmental psychology*, *33*(6), 1032-1039.

Hodges, E. V., & Perry, D. G. (1999). Personal and interpersonal antecedents and consequences of victimization by peers. *Journal of personality and social psychology*, *76*(4), 677-685.

Hooper, D., Coughlan, J., & Michael, M. (2008). Structural Equation Modelling: Guidelines for Determining Model Fit. *Electronic Journal of Business Research Methods* 6:53-60.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, *6*(1), 1-55.

Hutcheson, G. D., & Sofroniou, N. (1999). *The multivariate social scientist: Introductory statistics using generalized linear models*. London: Sage Publications.

Jacobs, B. A., & Wright, R. (2006). *Street justice: Retaliation in the criminal underworld*. Cambridge University Press.

Jennings, W. G., Piquero, A. R., & Reingle, J. M. (2012). On the overlap between victimization and offending: A review of the literature. *Aggression and Violent Behavior*, *17*(1), 16-26.

Jung, H., & Park, S. (2010). Changes in victimization and its predictors in early adolescence. *Korean criminological review*, *21*, 149-173.

Juvonen, J., Nishina, A., & Graham, S. (2000). Peer harassment, psychological adjustment, and school functioning in early adolescence. *Journal of educational psychology*, *92*(2), 349-359.

Kennedy, L. W., & Baron, S. W. (1993). Routine activities and a subculture of violence: A study of violence on the street. *Journal of Research in Crime and Delinquency*, *30*(1), 88-112.

Kennedy, L. W., & Forde, D. R. (1994). Pathways to aggression: A factorial survey of "Routine conflict". *Journal of Quantitative Criminology*, *12*(4), 417-438.

Kim, Y. S., Koh, Y. J., & Leventhal, B. (2005). School bullying and suicidal risk in Korean middle school students. *Pediatrics*, *115*(2), 357-363.

Kline, R. B. (1998). *Principles and Practices of Structural Equation Modeling*. New York: Guilford publications.

Kwon, J. M. (1999). Methodological review of school bullying research. *The Journal of Educational Research*, *15*, 45-56.

Lauritsen, J. L., Laub, J. H., & Sampson, R. J. (1992). Conventional and delinquent activities: Implications for the prevention of violent victimization among adolescents. *Violence and victims*, *7*(2), 91-108.

Lauritsen, J. L., Sampson, R. J., & Laub, J. H. (1991). The link between offending and victimization among adolescents. *Criminology*, *29*(2), 265-292.

Liska, A. E., Felson, R. B., Chamlin, M., & Baccaglini, W. (1984). Estimating attitude-behavior reciprocal effects within a theoretical specification. *Social psychology quarterly*, *47*(1), 15-23.

Loeys, T., Moerkerke, B., De Smet, O., & Buysse, A. (2012). The analysis of zero-inflated count data: Beyond zero-inflated Poisson regression. *British Journal of Mathematical and Statistical Psychology*, *65*(1), 163-180.

Markowitz, F. E., & Felson, R. B. (1998). Social-demographic attitudes and violence. *Criminology*, *36*(1), 117-138.

Matsuda, K. N., Esbensen, F. A., & Carson, D. C. (2012). Putting the "Gang" in "Eurogang": Characteristics of delinquent youth groups by different definitional approaches. In F.-A. Esbensen & C. L. Maxson (Eds.), *Youth gangs in international perspective* (pp. 17-33). New York, NY: Springer.

Matsuda, K. N., Melde, C., Taylor, T. J., Freng, A., & Esbensen, F. A. (2013). Gang membership and adherence to the "code of the street". *Justice Quarterly*, *30*(3), 440-468.

McGloin, J., Schreck, C. J., Stewart, E. A., & Ousey, G. C. (2011). Predicting the violent offender: The discriminant validity of the subculture of violence. *Criminology*, *49*(3), 767-794.

McGrath, S. A., Marcum, C. D., & Copes, H. (2012). The effects of experienced, vicarious, and anticipated strain on violence and drug use among inmates. *American Journal of Criminal Justice*, *37*(1), 60-75.

McIntosh, C. N. (2007). Rethinking fit assessment in structural equation modelling: A commentary and elaboration on Barrett. *Personality and Individual Differences, 42*(5), 859-867.

McCormack, A., Janus, M. D., & Burgess, A. W. (1986). Runaway youths and sexual victimization: Gender differences in an adolescent runaway population. *Child Abuse & Neglect*, *10*(3), 387-395.

McNeeley, S., & Wilcox, P. (2015). Street codes, routine activities, neighbourhood context and victimization. *British Journal of Criminology*, *55*(5), 921-943.

Menard, S.E. (1995). *Applied logistic regression analysis* (Sage University Paper Series on Quantitative Applications in the Social Sciences,07-106). Thousand Oaks, CA: Sage Publications.

Miller, J. (2008). *Getting played*: *African American girls, urban inequality, and gendered violence*. New York: New York University Press.

Ministry of Education in South Korea. (2017, December 2). School Violence Survey [Press release]. Retrieved from http://www.moe.go.kr/newsearch/search.jsp

Musu-Gillette, L., Zhang, A., Wang, K., Zhang, J., Kemp, J., Diliberti, M., & Oudekerk, B. A. (2018). Indicators of School Crime and Safety: 2017

Myers, R. (1990). *Classical and modern regression with applications*, 2nd edition. Boston, MA: Duxbury.

Noh, S. (2007). Effects of deviant lifestyles on youth criminal victimization: Analysis of youth panel data. *Korean Journal of Victimology*, *15*, 257-284.

Noh, S., & Lee, S (2003). An Empirical Study of Risk Factors of Violent Victimization in Youth. *Korea Journal of Victimology*, *11*(2), 27-52

Olweus, D. (1978). *Aggression in the schools: Bullying and whipping boys*. Washington, DC: Hemisphere.

Olweus, D. (1993) *Bullying at school: What we know and what we can do*. Cambridge, MA: Blackwell Publishing

O, S., & Wilcox, P. (2018). Routine Activity Theory, Target Congruence, and School Context: A Multilevel Analysis of Teacher Victimization. *Victims & Offenders*, *13*(3), 349–372.

Ousey, G. C., & Wilcox, P. (2005). Subcultural values and violent delinquency: A multilevel analysis in middle schools. *Youth Violence and Juvenile Justice*, *3*(1), 3-22.

Ousey, G. C., Wilcox, P., & Brummel, S. (2008). Déjà vu all over again: Investigating temporal continuity of adolescent victimization. *Journal of Quantitative Criminology*, *24*(3), 307-335.

Ousey, G. C., Wilcox, P., & Fisher, B. S. (2011). Something old, something new: Revisiting competing hypotheses of the victimization-offending relationship among adolescents. *Journal of Quantitative Criminology*, *27*(1), 53-84.

Park, I. H., & Cho, L. (1995). Confucianism and the Korean family. *Journal of Comparative Family Studies, 26*, 117–134.

Piquero, A. R., Intravia, J., Stewart, E., Piquero, N. L., Gertz, M., & Bratton, J. (2012). Investigating the determinants of the street code and its relation to offending among adults. *American Journal of Criminal Justice*, *37*(1), 19-32.

Perry, D. G., Kusel, S. J., & Perry, L. C. (1988). Victims of peer aggression. *Developmental psychology*, *24*(6), 807-814.

Perry, D. G., Perry, L. C., & Kennedy, E. (1992). Conflict and the development of antisocial behavior. In C. U. Shantz & W. W. Hartup (Eds.), *Conflict in child and adolescent development* (pp. 301–329). Cambridge, MA: Cambridge University Press.

Perry, D. C., Williard, J. C., & Perry, L. C. (1990). Peers' perceptions of the consequences that victimized children provide aggressors. *Child development*, *61*(5), 1310-1325.

Rich, J. A., & Grey, C. M. (2005). Pathways to recurrent trauma among young black men: traumatic stress, substance use, and the "code of the street". *American Journal of Public Health*, *95*(5), 816-824.

Rigby, K. (1998). The relationship between reported health and involvement in bully/victim problems among male and female secondary schoolchildren. *Journal of Health Psychology*, *3*(4), 465-476.

Rubin, K. H., Hemphill, S. A., Chen, X., Hastings, P., Sanson, A., Coco, A. L., Zappulla, C.,Chung, O.B., Park, S.Y., Doh, H.S., Chen, H., Sun, L., Yoon, C.H., & Cui, L. (2006). A cross-cultural study of behavioral inhibition in toddlers: East–West–North–South. *International Journal of Behavioral Development*, *30*(3), 219-226.

Sampson, R. J., & Lauritsen, J. L. (1990). Deviant lifestyles, proximity to crime, and the offender-victim link in personal violence. *Journal of research in crime and delinquency*, *27*(2), 110-139.

Schreck, C. J. (1999). Criminal victimization and low self-control: An extension and test of a general theory of crime. *Justice Quarterly*, *16*(3), 633-654.

Schreck, C.J., & Berg, M.T. (in press). What ideas of victimization and vulnerability mean for criminological theory: a logical appraisal. *Advances in Criminological Theory.*

Schreck, C. J., & Fisher, B. S. (2004). Specifying the influence of family and peers on violent victimization extending routine activities and lifestyles theories. *Journal of Interpersonal Violence*, *19*(9), 1021-1041.

Schreck, C. J., Miller, J. M., & Gibson, C. L. (2003). Trouble in the school yard: A study of the risk factors of victimization at school. *Crime & Delinquency*, *49*(3), 460-484.

Schreck, C. J., Ousey, G. C., Fisher, B. S., & Wilcox, P. (2012). Examining what makes violent crime victims unique: Extending statistical methods for studying specialization to the analysis of crime victims. *Journal of Quantitative Criminology*, *28*(4), 651-671.

Schreck, C. J., Stewart, E. A., & Fisher, B. S. (2006). Self-control, victimization, and their influence on risky lifestyles: A longitudinal analysis using panel data. *Journal of Quantitative Criminology*, *22*(4), 319-340.

Schwartz, D. (2000). Subtypes of victims and aggressors in children's peer groups. *Journal of abnormal child psychology*, *28*(2), 181-192.

Schwartz, D., Dodge, K. A., & Coie, J. D. (1993). The emergence of chronic peer victimization in boys' play groups. *Child development*, *64*(6), 1755-1772.

Schwartz, D., McFadyen-Ketchum, S. A., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1998). Peer group victimization as a predictor of children's behavior problems at home and in school. *Development and psychopathology*, *10*(1), 87-99.

Schwartz, D., McFadyen-Ketchum, S., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1999). Early behavior problems as a predictor of later peer group victimization: Moderators and mediators in the pathways of social risk. *Journal of abnormal child psychology*, *27*(3), 191-201.

Schwartz, D., Chang, L., & Farver, J. M. (2001). Correlates of victimization in Chinese children's peer groups. *Developmental Psychology*, *37*(4), 520-532.

Schwartz, D., Farver, J. M., Chang, L., & Lee-Shin, Y. (2002). Victimization in South Korean children's peer groups. *Journal of abnormal child psychology*, *30*(2), 113-125.

Simons, R. L., Chen, Y. F., Stewart, E. A., & Brody, G. H. (2003). Incidents of discrimination and risk for delinquency: A longitudinal test of strain theory with an African American sample. *Justice Quarterly*, *20*(4), 827-854.

Smith, M. D. (1979). Hockey violence: A test of the violent subculture hypothesis. *Social Problems*, *27*(2), 235-247.

Smith, P. K. (1991). The silent nightmare: Bullying and victimization in school peer groups. *The psychologist*, *4*(6), 243-248.

Steiger, J. H. (2007). Understanding the limitations of global fit assessment in structural equation modeling. *Personality and Individual differences, 42*(5), 893-898.

Stewart, E. A., Schreck, C. J., & Simons, R. L. (2006). “I Ain't Gonna Let No One Disrespect Me” Does the Code of the Street Reduce or Increase Violent Victimization among African American Adolescents? *Journal of Research in Crime and Delinquency*, *43*(4), 427-458.

Stewart, E. A., & Simons, R. L. (2006). Structure and culture in African American adolescent violence: A partial test of the “code of the street” thesis. *Justice Quarterly*, *23*(1), 1-33.

Stewart, E. A., & Simons, R. L. (2010). Race, code of the street, and violent delinquency: A multilevel investigation of neighborhood street culture and individual norms of violence. *Criminology*, *48*(2), 569-605.

Stewart, E. A., Simons, R. L., & Conger, R. D. (2002). Assessing neighborhood and social psychological influences on childhood violence in an African-American sample. *Criminology*, *40*(4), 801-830.

Sullivan, C. J., Ousey, G. C., & Wilcox, P. (2016). Similar mechanisms? A comparative longitudinal study of adolescent violence and victimization. *Journal of interpersonal violence, 31*(8), 1367-1392.

Swartz, K. (2012). *" Code of the Hallway": Examining the Contextual Effects of School Subculture on Physical Violence, Sexual Offending, and Nonviolent Delinquency* (Doctoral dissertation, University of Cincinnati).

Swartz, K., Wilcox, P., & Ousey, G. C. (2017). Culture as values or culture in action? Street codes and student violent offending. *Victims & Offenders*, *12*(6), 868-890.

Tedeschi, J. T., & Felson, R. B. (1994). *Violence, aggression, and coercive actions*. American Psychological Association.

Taylor, T. J., Freng, A., Esbensen, F. A., & Peterson, D. (2008). Youth gang membership and serious violent victimization: The importance of lifestyles and routine activities. *Journal of Interpersonal Violence*, *23*(10), 1441-1464.

Tillyer, M. S., Fisher, B. S., & Wilcox, P. (2011). The effects of school crime prevention on students' violent victimization, risk perception, and fear of crime: A multilevel opportunity perspective. *Justice Quarterly*, *28*(2), 249-277.

Tillyer, M. S., Gialopsos, B. M., & Wilcox, P. (2016). The short-term repeat sexual victimization of adolescents in school. *Crime & Delinquency*, *62*(1), 81-106.

Tillyer, M. S., Wilcox, P., & Fissel, E. R. (2018). Violence in schools: repeat victimization, low self-control, and the mitigating influence of school efficacy. *Journal of Quantitative Criminology*, *34*(2), 609-632.

Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.

Turanovic, J. J., & Pratt, T. C. (2014). "Can't stop, won't stop": Self-control, risky lifestyles, and repeat victimization. *Journal of Quantitative Criminology*, *30*(1), 29-56.

Turanovic, J. J., Reisig, M. D., & Pratt, T. C. (2015). Risky lifestyles, low self-control, and violent victimization across gendered pathways to crime. *Journal of Quantitative Criminology*, *31*(2), 183-206.

Weisburd, D., Morris, N. A., & Groff, E. R. (2009). Hot spots of juvenile crime: a longitudinal study of arrest incidents at street segments in Seattle, Washington. *Journal of Quantitative Criminology*, *25*(4), 443-467.

Welsh, W. N. (2001). Effects of student and school factors on five measures of school disorder. *Justice Quarterly*, *18*(4), 911-947.

Wilcox, P., Tillyer, M. S., & Fisher, B. S. (2009). Gendered opportunity? School-based adolescent victimization. *Journal of Research in Crime and Delinquency*, *46*(2), 245-269.

Zavala, E., & Spohn, R. E. (2013). The role of vicarious and anticipated strain on the overlap of violent perpetration and victimization: A test of general strain theory. *American Journal of Criminal Justice*, *38*(1), 119-140.

Zaykowski, H., & Gunter, W. (2012). Youth victimization: School climate or deviant lifestyles? *Journal of interpersonal violence*, *27*(3), 431-452.

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

Variables	Survey items and Cronbach's alpha	N	Missing %
Dependent Variables			
Violent	In the current school year,		
victimization	how many times have you been forced to give up your money or property	13,241	1.3
	how many times have you been physically attacked	13,241	1.3
	how many times have you had a gun pulled on you	13,251	1.3
	how many times have you had a weapon pulled on you	13,250	1.3
	Cronbach's alpha: .68		
Key Independent Variables			
Retaliatory norms	It is alright to beat up another person if he/she called you a dirty name	13,180	1.8
(RNs)	It is alright to beat up another person if he/she started the fight	13,170	1.9
	Cronbach's alpha: .73		
General toughness	In order to gain respect from your friends, it is sometimes necessary to beat up on other kids	13,197	1.7
norms (GTNs)	Hitting another person is an acceptable way to get him/her to do what you want	13,187	1.7
	It is okay to break the law if you can get away with it	13,232	1.4
	To get ahead, sometimes you have to do things that seem wrong	13,213	1.5
	Most things that adults call "crime" don't really hurt anyone	13,214	1.5
	It is okay to break the law if noboday is hurt by it	13,221	1.5
	Cronbach's alpha: .87		
Risky Lifestyle			
Delinquency	In the present school year, how often have you…		
	forced someone at school to give up their money or property	13,285	1.0
	forced someone not at school to give up their money or property	13,295	0.9
	stolen someone's money or property at school when they were not around	13,297	0.9
	stolen someone's money or property not at school when they were not around	13,288	1.0
	physically attacked someone at school	13,265	1.2
	physically attacked someone not at school	13,270	1.1

(continued)

Variables	Survey items and Cronbach's alpha	N	Missing %
	touched someone in a sexual manner without their consent or against their will at school	13,297	0.9
	touched someone in a sexual manner without their consent or against their will not at school	13,289	1.0
	taken a gun to school	13,291	1.0
	taken another weapon to school	13,281	1.0
	used a gun during a fight	13,271	1.1
	used another weapon during a fight	13,278	1.1
	vandalized public or private property	13,213	1.5
	Cronbach's alpha: .89		
Delinquent peers	How many friends have...		
	vandalized public or private property	12,364	7.9
	physically attacked someone	12,366	7.9
	stolen someone's money or property when they were not around	12,355	7.9
	sold marijuana or other drugs	12,357	7.9
	gotten arrested	12,348	8.0
	taken an explosive to school	12,333	8.1
	taken a gun to school	12,333	8.1
	taken a weapon to school	12,352	8.0
	been suspended from school	12,382	7.7
	cut school completely	12,373	7.8
	used cocaine	12,354	7.9
	used inhalants	12,363	7.9
	smoked marijuana	12,430	7.4
	gotten drunk	12,444	7.3
	used smokeless tobacco daily for one week or more	12,383	7.7
	smoked cigarettes daily for one week or more	12,455	7.2
	Cronbach's alpha: .90		

(Continued)

Variables	Survey items and Cronbach's alpha	N	Missing %
Other Control Variables			
Low self-control	I have trouble controlling my temper	13,230	1.4
	I have difficulty remaining seated at school	13,234	1.4
	I get very restless after a few minutes if I am supposed to sit still	13,202	1.6
	When I am angry, I lose control over my actions	13,206	1.6
	I have difficulty keeping attention on tasks	13,193	1.7
	I get so frustrated that I feel like a bomb ready to explode	13,194	1.7
	Little things or distractions/interruptions throw me off	13,202	1.6
	I'm nervous or on edge	13,148	2.0
	I can't seem to stop moving	13,141	2.1
	I don't pay attention to what I'm doing	13,170	1.9
	I am afraid I will lose control of my feelings	13,158	2.0
	Cronbach's alpha: .91		
School attachment			
	I care a lot what my teachers think of me	13,321	0.7
	Getting an education is important to me	13,301	0.9
	I look forward to coming to school most mornings	13,253	1.2
	I would quit school now if I could (reverse coded)	13,291	1.0
	Most of my classes are a waste of time (reverse coded)	13,267	1.1
	Most of teachers are not interested in anything I say or do (reverse coded)	13,286	1.0
	Cronbach's alpha: .70		
Gender	Respondent's gender	13,380	0.3
Race	How do you describe yourself	13,355	0.5
Wave2		3,638	0.0
Wave3		3,050	0.0
Wave4		3,040	0.0

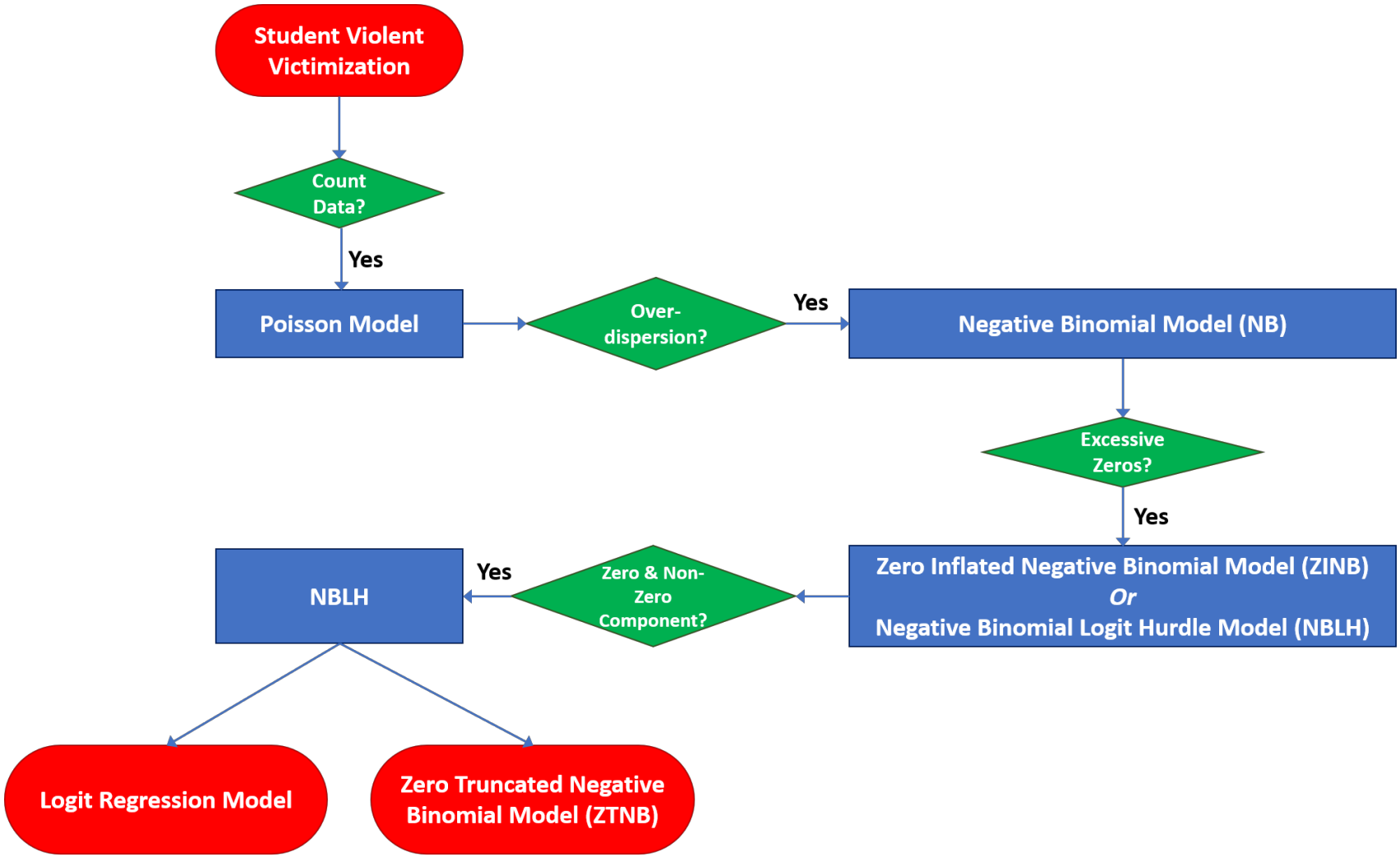
Appendix B. Survey Items in South Korea Data Used to Construct the Dependent and Independent Variables.

Variables	Survey items and Cronbach's alpha	N	Missing %
Dependent variables			
Violent victimization	Being severely teased or bantered during the last one year	12,883	6.6
	Being threatened during the last one year	12,883	6.6
	Being collectively bullied during the last one year	12,883	6.6
	Being severely beaten during the last one year	12,883	6.6
	Being sexually assaulted during the last one year	12,883	6.6
	Being robbed during the last one year	12,882	6.6
	Cronbach's alpha: .59		
Key Independent variables			
Retaliatory norms (RNs)	I will hit back at a person who hits me	12,875	6.7
General toughness norms (GTNs)	I may hit other people when I feel annoyed	12,880	6.6
Risky Lifestyle			
Delinquency	during the last one year,		
	Severely beating other people	12,879	6.6
	Robbing during the last one year	12,881	6.6
	Stealing during the last one year	12,883	6.6
	Severely teasing or bantering other people	12,883	6.6
	Threatening other people	12,883	6.6
	Collectively bullying	12,883	6.6
	Sexual assault or sexual harassment		
	Cronbach's alpha: .65		
Delinquent peers	Among your close friends, how many did the followings during the last one year		
	severely beating other people	12,830	7.0
	robbing	12,822	7.1
	stealing	12,823	7.1
	Cronbach's alpha: .78		

(Continued)

Variables	Survey items and Cronbach's alpha	N	Missing %
Other Control Variables			
Low self-control	I jump into exciting things even if I have to take an examination tomorrow	12,883	6.6
	I abandon a task once it becomes hard and laborious to do	12,881	6.6
	I am apt to enjoy risky activities	12,883	6.6
	I enjoy teasing and harassing other people	12,879	6.6
	I lose my temper whenever I get angry	12,880	6.6
	I don't do my homework habitually	12,883	6.6
	I am often seized by an impulse to throw an object whenever I get angry	12,878	6.7
	Sometimes I can't suppress an impulse to hit other people	12,876	6.7
	I consider myself an explosive soon to be blown off	12,872	6.7
	Cronbach's alpha: .74		
School attachment	I find it difficult to follow school rules and regulations (reverse coded)	12,774	7.4
	I am not interested in school work and find it difficult to catch up (reverse coded)	12,761	7.5
	I am not in good terms with school teachers (reverse coded)	12,693	8.0
	Cronbach's alpha: .72		
Gender	Respondent's gender	12,883	6.6
Wave2		3,449	0.0
Wave3		3,449	0.0
Wave4		3,449	0.0

Appendix C. Model Specification Flow-chart



Appendix D. Correlation Coefficient Estimate for CFA with One Factor and Two Factor

CFA with One Factor

E8	<-->	E7	0.445**
E7	<-->	E2	0.194**
E3	<-->	E8	-0.076**
E3	<-->	E1	-0.516**
E4	<-->	E1	-0.86**
E4	<-->	E2	-0.256**
E5	<-->	E1	-0.788**
E5	<-->	E2	-0.212**
E5	<-->	E4	-0.099*
E6	<-->	E1	-0.717**
E6	<-->	E2	-0.125**
E6	<-->	E3	0.348**
E6	<-->	E5	0.074**
E8	<-->	E1	-0.194**
E6	<-->	E8	-0.051**

CFA with Two Factor

E6	<-->	E1	-0.059**
E1	<-->	E2	0.344**
E6	<-->	E2	-0.048**
E6	<-->	E3	0.282**
E7	<-->	E1	0.386**
E7	<-->	E2	0.374**

Appendix E. Correlation Coefficient Estimate for Figure 1 (*N*=11,749)

GTNs	<-->	RNs	0.687***
GTNs	<-->	Low self-control	0.429***
GTNs	<-->	School attachment	-0.459***
GTNs	<-->	Gender	-0.162***
GTNs	<-->	Race	-0.082***
GTNs	<-->	Wave2	-0.024**
GTNs	<-->	Wave3	0.004
GTNs	<-->	Wave4	0.036***
RNs	<-->	Low self-control	0.406***
RNs	<-->	School attachment	-0.381***
RNs	<-->	Gender	-0.166***
RNs	<-->	Race	-0.096***
RNs	<-->	Wave2	-0.031***
Low self-control	<-->	School attachment	-0.368***
Low self-control	<-->	Race	-0.061***
Low self-control	<-->	Wave3	-0.084***
School attachment	<-->	Gender	0.126***
School attachment	<-->	Race	0.068***
School attachment	<-->	Wave2	0.036***
School attachment	<-->	Wave4	-0.108***
gender	<-->	Wave4	-0.001
Wave2	<-->	Wave3	-0.345***
Wave2	<-->	Wave4	-0.348***
Wave3	<-->	Wave4	-0.331***
E1	<-->	E3	0.358***
E1	<-->	E4	0.356***
E3	<-->	E4	0.365***
E3	<-->	E8	-0.073***
E4	<-->	E8	-0.066***
E5	<-->	E8	0.242***

*$p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.