

Explaining the Victim-Offender Overlap of Cyberbullying Perpetration and  
Cyberbullying Victimization.

by

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## **ABSTRACT**

Cyberbullying is a public health issue frequently experienced by adolescents that can have detrimental effects, including mental health issues and even suicide. While prior research has found that those involved in traditional bullying are more likely to experience cyberbullying, less is known about how bonds to school and family may protect against perpetration and victimization of both types of bullying. The study uses multiple perspectives— social bond theory, lifestyle/routine activities theory, and low self-control theory—to examine the victim/offender overlap of cyberbullying perpetration and cyberbullying victimization. It uses data from Arizona Youth Survey, a survey of middle and high school students that is representative of the state of Arizona. Bivariate probit models are estimated to assess relationships between the victim/offender overlap and predictor variables consistent with social bond theory. Building on prior research, several hypotheses are tested. Hypothesis 1: There is an overlap between cyberbullying offending and cyberbullying victimization. Hypothesis 2.1: Adolescents who have greater attachment to family will be less likely to perpetrate cyberbullying. Hypothesis 2.2: Adolescents who have greater attachment to family will be less likely to experience cyberbullying victimization. Hypothesis 3.1: Adolescents who are more involved with conventional activities will be less likely to perpetrate cyberbullying. Hypothesis 3.2: Adolescents who are more involved with conventional activities will be less likely to experience cyberbullying victimization. Hypothesis 4.1: Adolescents who have higher self-control will be less likely to perpetrate cyberbullying. Hypothesis 4.2: Adolescent who have higher self-control will be less likely to experience cyberbullying victimization. Hypothesis

5.1 Adolescents who have risky lifestyles will be more likely to perpetrate cyberbullying. Hypothesis 5.2 Adolescents who have risky lifestyles will be more likely to experience cyberbullying victimization. The results were consistent with the hypotheses. Implications for theory, research, and practice are discussed.

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## **CHAPTER I**

### **INTRODUCTION**

About 95% of the teenagers aged 11 and 17 report having access to a smartphone, 90% have a desktop or a laptop, and 80% have access to a gaming console. Also, 95% of teens in the USA use the internet daily (Pew Research Center, 2022). The rapid expansion of information and communication technologies (ICT) has led to increased spread of social issues, such as cyber-stalking (Novo et al., 2014) and online harassment—both offending and victimization (Ybarra et. al., 2011). Unlike traditional bullying, cyberbullying is defined as intentional, aggressive behavior that takes place by use of electronic media, for example computers and cellphones (Hinduja and Patchin, 2008; Reekman and Cannard, 2009). There are several forms of cyberbullying, including harassment of another person through repetitive messages, spreading personal information about another individual, and insulting another person online in public forum such as a chatroom (Hinduja and Patchin, 2008).

The prevalence of both in-person bullying and cyberbullying is seen mostly among middle school years (CDC, 2021). One in five middle school students and more than one in six high school students reported being bullied (CDC, 2022). These statistics vary demographically. For example, approximately 40% of LGBTQ high school students and about 33% of those who are reportedly unsure of their sexual identity faced bullying at school or electronically. Additionally, females (30%) are more likely to be bullied than males (19%) at school or electronically. According to

the UNESCO Institute of Statistics, about one-third of the global youth faced bullying, and immigrant-born youth are more likely to be victims of bullying than native youths (UIS, 2018).).

The consequences of bullying (both traditional and cyberbullying) may involve physical injury, social and emotional distress, self-harm, and even death. In addition, these can cause increased risk for depression, anxiety, sleep difficulties, lower academic achievement, and dropping out of school (CDC, 2021). Traditional bullying perpetration is associated with suicidal behavior (Holt et al., 2015), offending and violence in later life (Ttifi et al., 2011b & 2012), and drug use (Ttofi et al., 2012). Traditional bullying victimization has been linked to depression (Hawker and Boulton, 2000), loneliness (Gini and Pozzoli, 2013), and anxiety (Gini et al., 2014). Other studies have also found a substantial association between cyberbullying and mental health and wellbeing. Cyberbullied victims encounter psycho-social consequences such as sadness, anxiety, fear, and lack of concentration which, in turn, have impacts on academic performance, skipping school, getting suspended or detention, and weapon carrying (Hay et. al. 2010; Hinduja and Patchin, 2007; Perren et. al., 2010; Brown et. al., 2017). Cyberbullying offending and victimization may result in depressive symptoms and suicide ideation (Bonanno et. al., 2013; Brown et. al., 2014 and 2017). Thus, concerned professionals ought to learn how cyberbullying perpetration and victimization can be identified, prevented, and responded to effectively (Sabella et al., 2013).

The victim-offender overlap, which finds that those who are involved in offending are more likely to be victimized than those who are not (Roman et al., 2019), has been studied extensively. Researchers have found that various demographic characteristics as well as delinquent lifestyles can help explain the victim-offender overlap (Daday et al., 2005). Jennings et al (2010) identified several characteristics of the overlap, including low school commitment, low parental monitoring, biological sex, and low self-control. Moreover, previous research has used several theories to account for the victim-offender overlap: the routine activities/lifestyles theory (Schreck et al., 2008; Smith and Ecob, 2007; Taylor et al., 2008), delinquent peers (Sampson and Lauritsen, 1990; Schreck et al., 2008; Osgood et al., 1996), and low self-control theory (Gottfredson and Hirschi, 1990; Pratt and Cullen, 2000; Jennings et al., 2010). While the victim-offender overlap of serious crimes are well documented in the literature, including homicides (Broidy et al., 2006; Dobrin, 2001; Rogoeczi, 2000; Wolfgang, 1958), violent behavior (Daday et al., 2005; Hiday et al., 2001; Lauritsen and Quinet, 1995), and property crime (Daday et al., 2005; Dobrin, 2001), cyberbullying has not been fully examined. The present study seeks to fill the gap in literature by using social bonds theory, low self-control theory, and lifestyle/ routine activities theory to explain cyberbullying victim-offender overlap.

## CHAPTER II

### LITERATURE REVIEW

#### Theoretical Framework

Because of the well-documented link between offending and victimization, a victim-offender approach is essential to better understand these concepts (Jennings et al., 2012). Previous research has shown that victims and offenders have shared characteristics and risk factors (Gottfredson, 1981; Mustaine and Tewksbury, 2000; Lauritsen and Laub, 2007). Therefore, criminologists have attempted to account for victimization and perpetration employing theories that can be applicable to both.

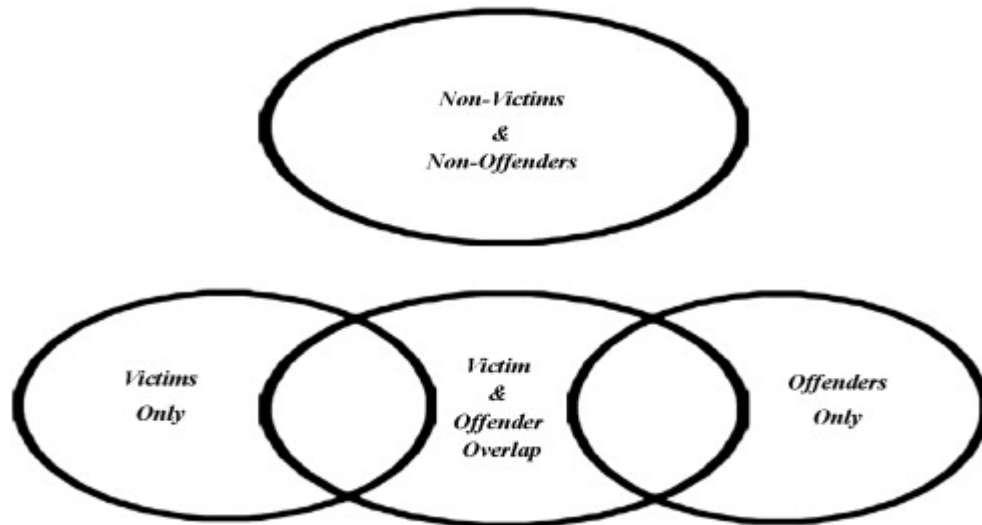


Figure 1 showing victim-offender overlap (Jennings et al., 2012).

Routine activities theory is one of the theories that addresses the victim-offender overlap. Previous researchers (Schreck et al., 2008; Smith and Ecob, 2007; Taylor et al., 2008) have used this theory to explain the overlap of various crimes.

Another theory that is most recognized for victim offender overlap is Gottfredson and Hirschi's (1990) general theory of crime (Jennings et al., 2012). Prior research (Jennings et al., 2010; Baron et al., 2007; Higgins et al., 2009; Piquero et al., 2005) has also found support for this theory to account for victim offender overlap. Although the use of social bonding theory is relatively new in explaining the victim-offender overlap, it will be used in this study to explain the victim-offender overlap of cyberbullying. The three theories—lifestyle/routine activities theory, low self-control theory, and social bonding—are discussed below.

#### *Lifestyle/Routine Activity Theory*

Routine activities theory, sometimes termed as crime opportunities theory, puts emphasis on crime-generating situations or circumstances connected to both time and place of crimes (Felson and Cohen, 1979). Routine activity theory (RAT) has been regarded as an extension of the lifestyle exposure theory of victimization (Hindelang et al., 1978). While RAT put emphasis on spatial and transitory order of criminal incidents and the lifestyle exposure theory focuses on explaining demographic differences in risks of personal victimization, both theories attempt to account for how daily routine activities or lifestyles of individuals pave the path for them to become victimized by others or to commit crime (Miethe et al., 1990). For Cohen and Felson (1979), three elements are most important for a crime to take place: a) First, motivated offenders, b) Second, suitable targets of criminal activities, and c) absence of capable

guardians of persons or property. The theory suggests that convergence of all three elements at a given time provides opportunity for a crime to take place.



Source: Sampson *et al.* (2010)

Figure 2 showing crime triangle

To prevent crime, one or more of these three elements must be eliminated (Cohen and Felson, 1979). Thus, along with victimization, it also can account for perpetration. Although lifestyles theory emerged before the routine activities theory, the propositions of routine activities are aligned with those of lifestyle theory (Hindelang *et al.*, 1978; Garofalo, 1987). Lifestyles is defined as “...routine daily activities, both vocational activities (work, school, housekeeping etc.) and leisure activities” (Hindelang *et al.*, 1978, p.241). The theory maintains that individuals’ desired social roles and positions determine lifestyle patterns leading to their possibility to get involved in certain activities (Hindelang *et al.*, 1978).

The Internet can be seen as an extension of the schoolyard, with victimizations occurring long after school hours (Patchin & Hinduja, 2006). Grabosky (2001) maintained that the motivation, presence of potential offender and suitable targets or victims, and lack of guardianship in case of traditional crimes can also be used in cybercrime. First, access to more motivated offenders is not just limited to physical surroundings. Similar motivations such as greed, lust, power, revenge, adventure, and the desire to taste ‘forbidden fruit’ that work in traditional crime are also applicable to cybercrime (Grabosky, 2000). Second, cyberspace performs the same purposes as places such as the bus stop, the schoolyard, the busy shopping mall, or the disco for traditional crime. In other words, cyberspace provides access to suitable targets of cybercrime. Previous studies have found evidence of an increase in cyberbullying in the last decade. This cyberbullying has taken place using electronic communication technologies, for example social media (Facebook, Instagram, Snapchat), online instant messaging, digital messages or images sent to a cellular phone, and through online gaming (Kowalski et al., 2014 & 2012; Patchin and Hinduja, 2012). Third, Pratt et al., (2010) found that parents seldom have control over what their children are doing online, and governments are facing many challenges regarding making laws to combat cybercrime. Therefore, these studies show that a lack of capable guardianship is evident in cyberspace as well. As a result, the rapid expansion of the Internet has changed consumer cultures and created an increased opportunities for cybercrime and cybervictimization (Pratt et. al., 2010). People’s online behavior and online routine activities lead them to increased cybervictimization (Pratt et. al.,2010; Wick et. al.,



2017; Song et. al., 2015; and Akgul, 2021). Most importantly, the nature of the relation between the individuals communicating online have effects on the outcomes of their online exchanges. For example, cyber aggression happens often in comments and forum reply to sections which imply that anonymity can trigger cyberbullying (Whittaker and Kowalski, 2015).

Likewise, adolescent's involvement in delinquent lifestyles is strongly associated with criminal victimization, and participation in pro-social activities decreased the risk of victimization (Lauritsen et al., 1991). A study by the Crime Against Children Research Center found that a significant number of children and adolescents are exposed to risk-taking and inappropriate behaviors on the Internet (Wolak et al., 2006) and thus, are at risk of experiencing cyberbullying victimization (Wolak et al., 2006; Ybarra and Mitchel, 2004a, 2004b; Berson et al., 2002). Other research shows that those living delinquent lifestyles have a greater possibility of both becoming a criminal offender and a victim. For instance, Kowalski et al. (2014) demonstrated that anonymous use of electronic media and social media may broaden the space for potential perpetrators of cyberbullying. Individuals' behaving according to the social norms and reflecting about the ramifications of acting outside those social norms prevent them from doing otherwise. However, the awareness of the reflection disappears when they are meshed in a crowd with anonymity that makes them unidentifiable. Thus, anonymity can lead people to violate social norms and laws, and it can occur in online settings as well (Postmes et al., 1998). Other studies imply similar findings, for example people tend to say and do things when unidentified that

they might not say and do face-to-face (Postmes and Spears, 1998; Diener et al., 1976). Therefore, adolescents who use anonymous electronic and online media, including social media and gaming sites, are more likely to perpetrate cyberbullying and to experience cyberbullying victimization. Likewise, people's digital capable guardianship, as well as their online lifestyles, are strongly associated with cyberbullying victimization. For example, individuals who tend to visit unknown websites or download random files, or who visit and click on different icons without security have more chances of experiencing cybervictimization (Choi, 2008). Navarro and Jasinski (2012) revealed that an individual's online availability (i.e., time spent online; Hinduja and Patchin, 2008) as well as suitability (i.e., activities online) had considerable association with cyberbullying victimization (See also Holt et al., 2016; Bossler et al., 2012). Findings of these studies suggest that individuals, whose routine activities involve risky behavior and who lack capable guardianship, are more likely to experience cybervictimization and to perpetrate cybercrime including cyberbullying.

#### *Low Self-Control Theory*

Gottfredson and Hirshi's (1990) general theory of crime, also known as low self-control theory, is derived from Hirschi's (1969) social bonding theory. Gottfredson and Hirschi (1990) developed self-control theory as a general theory of crime, which accounts for all individual differences in the "propensity" to commit crime. Low self-control theory is purported to explain all acts of crime and deviance, at all ages, and under all circumstances. (Akers et al., 2021). Gottfredson and Hirschi

defined crime “as acts of force or fraud undertaken in pursuit of personal interest” (Gottfredson and Hirschi, 1990, p.15). According to Gottfredson and Hirschi (1990), crime can be viewed as commonplace behavioral patterns such as accidents, smoking, and defaulting on loans. Put differently, crime is an impulsive behavior, usually unplanned and unspecialized, by individuals seeking self-gratification. They presented elements of crime: a) low self-control, b) opportunities for crime, and an innate tendency to commit crime which increases until the late teenage years and then decreases after that. This theory maintains that while individuals with high self-control are less likely throughout life to commit crimes, individuals with low self-control are more likely to get involved in criminal acts. Low self-control leads to criminal activities when opportunities are available to potential perpetrators, but a crime can be prevented by taking measures before it takes place.

The source of low self-control, as described by Gottfredson and Hirschi (1990), is ineffective child-rearing, or in other words, incomplete socialization of children. Parents’ attachment to the children, close monitoring of their behavior and punishment to correct deviant behavior helps develop an adequate level of self-control in children. Family has the most crucial role to play in developing self-control in children rather than schools and peer groups. Therefore, parents’ inability to monitor children’s behavior, to recognize criminal or deviant behavior, and to punish children for such behavior may lead children to engage in deviant behavior. Also, the degree of self-control developed during childhood is most likely to be unchanged throughout lifespan (Gottfredson and Hirschi, 1990).

Gottfredson and Hirschi (1990) maintained that low self-control may lead to negative life outcomes. Evans et al. (1997) and Burton et al. (1998, 1999) found support for this claim of the theory and argued that low self-control was associated with an overall poor quality of life. Aligned with the propositions of the low self-control theory by Gottfredson and Hirschi (1990), Junger and Trembley (1999), and Trembley (1995) revealed that people with low self-control were more likely to become involved in car accidents. Although the low self-control theory was developed mainly to explain criminal offending (Gottfredson, 2009; Pratt and Cullen, 2000), many studies have also demonstrated association of low self-control with victimization (Jennings et al., 2010; Bossler and Holt, 2010; Higgins et al., 2009; Piquero et al., 2005; Baron et al., 2007). For example, a study by Schreck et al. (2002) found strong association between low self-control and violent victimization, controlling for motivated offenders, social bonds, and unmonitored leisure activity with peers. They also maintained that adolescents who have low self-control bring risks to themselves. For instance, they tend to get influenced by motivated offenders and get involved in risky situations leading to victimization (Schreck et al., 2002). Low self-control can account for many forms of victimization including personal and property victimization, even when controlling for gender and family income (Schreck, 1999). These studies imply that low self-control may cause individuals to become involved in risky behaviors which, in turn, may lead to perpetration and victimization. Similarly, individuals with low self-control are more likely to become involved in

risky behavior online in absence of parental monitoring which, in turn, can expose them to cyberbullying perpetration and cyberbullying victimization.

Prior studies have found link between low self-control and cybercrime, such as illegally downloading music (Higgins et al., 2008; Hinduja and Ingram, 2008), software piracy (Higgins, 2005; Higgins and Wilson, 2006), watching sexual content online (Buzzell et al., 2006) unwanted exposure to pornographic content (Ngo and Paternoster, 2011), and cyber hacking (Bossler and Burruss, 2010). Vazsonyi et al. (2012) examined adolescents from 25 European countries and found that low self-control was associated with both traditional and cyberbullying victimization and perpetration. Stults and You (2021) also demonstrated similar results using a nationally representative sample of South Korean youth. Application of the low self-control theory to explain cyberbullying perpetration and victimization is limited. Therefore, the current study aims to expand on the present literature by employing this theory to explain cyberbullying in the US context.

### *Social Bonding Theory*

Travis Hirschi's (1969) social bonding theory is one of the most influential and widely used theories in criminology (Agnew, 1985). His theory construction in combination with conceptualization, operationalization, and empirical testing made the theory stand out in the discipline (Akers et al., 2021). According to Hirschi, "delinquent acts result when an individual's bond to society is weak or broken" (Hirschi, 1969, p.16). Hirschi maintained that there are four principal bonds—

attachment, commitment, involvement, and belief—that determine one’s bond to society. He hypothesized that the stronger these bonds with parents, adults, schoolteachers, and pro-social peers, the more individuals’ behavior will conform with societal rules. The weaker these bonds are, the more likely they will violate the social rules or laws in society (Hirschi, 1969).

Attachment, to Hirschi (1969), is the extent to which individuals have close affectional ties to others in society, appreciate them, and care about their expectations. Commitment indicates the extent to which people are invested in conventional rules and goals that would be lost if they get involved in any deviance or violate the law. The greater the commitment, the less likely that one would engage in nonconforming activities. Involvement refers to the extent to which a person is rooted in conventional activities such as studying, spending time with the family, and participating in extracurricular activities. The more one is involved in these activities, the less likely they will have time to get involved in nonconforming activities. Finally, belief is the idea of endorsing general conventional norms and values. In other words, it is the belief that the laws and rules of society are morally correct and should be followed. The weaker the belief an individual has in societal rules and laws, the more likely they are to break them (Hirschi, 1969).

Among all the bonds, attachment to parents is the bond that has the most empirical support in explaining delinquency and criminal behavior (Agnew, 1985; Fagan et al., 2013; Write and Cullen, 2001). On the other hand, previous studies, particularly those conducted in the USA, found less support for measures of

involvement and belief (Booth et al., 2008; Cernkovich and Giordano, 1987; Hindelang, 1973; Krohn and Massey, 1980; Payne, 2008). More current studies, particularly studies with an international focus, have used only a few of the Hirschi's (1969) bonds (Chui and Chan, 2012). Previous research has also shown that social bonds theory better explain less serious crimes than more serious crimes (Agnew, 1985; Kempf, 1993; Krohn and Massey, 1980; Krohn et al., 1983). The current study will use three measures of social bonds, including attachment to parents, involvement in conventional activities, and belief (both teen individual/teen belief and parental belief). Aligned with the propositions of the social bonding theory, this study argues that adolescents who have weak attachment to parents, are less involved in conventional activities, and have lower belief in conventional rules are more likely to become involved in cyberbullying perpetration and cyberbullying victimization.

Previous studies that used social bonding theory to explain traditional bullying found that adolescents are less likely to perpetrate bullying when they are involved in conventional activities (Newman et al., 2001), and when teachers respond to in-person bullying with vigilance (Olweus et al., 1999). Other researchers (Bender, 2012; Espelage et al., 2000; Payne et al., 2003) also found support for social bonds decreasing the possibility of delinquency among the youth. The literature shows a gap of using this theory in explaining cyberbullying offending and victimization that the present study strives to fill in.

## Literature Review

### *Low Self-Control and Cyberbullying Offending/Victimization*

The prior literature demonstrates that low self-control has a strong association with cyberbullying offending and victimization. Nodeland (2020) attempted to study the effects of low self-control on cyberbullying offending, cyberbullying victimization, and both cyberbullying victims and offenders. He employed an email survey based on a convenience sample of 517 American college students. Of the total 517 students, 335 were cyber offenders, 381 were cyber victims, and 240 were both. The study found that those with low self-control had an increased probability of cyberbullying victim-offender overlap. Also, having one peer who had been involved in cyber offending increased the probability of cyber offending by 49%. Donner et. al. (2014) studied the association between low self-control and cybercrime in general rather than just digital piracy. To test low self-control theory, the researchers used a sample of 488 college students in the southeast United States and a seven-index variety of online deviance. The study found that the most common forms of cybercrime were illegally downloading and uploading contents. They found that low self-control could predict cybercrime in general alongside digital piracy. Similar results were found by Chan (2019), who attempted to understand the cyber offending and victimization overlap in the Asian context. In a sample of 892 adolescents in Hong Kong, there was a considerable association between cyber offending and victimization. The study used both social learning theory and self-control theory. While these studies helped aid out understanding of the cyberbullying victim-offender



overlap, research is lacking. The current study will provide an additional examination of the relationship between self-control and the victim-offender overlap of cyberbullying.

### *Risky Lifestyles and Cyberbullying Offending/Victimization*

A larger volume of literature examines online exposure and its connection with offending and victimization. Wick et. al. (2017) tested RAT in terms of patterns of cyber harassment and perception of harassment among college students in the United States. They used a sample of 298 college students at a large southwestern state university and found that cyber victimization, especially of women, was related to more risk-taking behavior, reported online exposure, and disclosure. Men's cyber-harassment victimization was strongly associated with their cyber perpetration, whereas for women it was correlated with their risk propensity, risk exposure, and risk disclosure. For both, risk propensity as well as online exposure were significantly associated with cyber offending (Vandebosch & Van Cleemput, 2009). Patton et. el. (2014) assessed the role of social media in youth violence such as bullying, gang violence, and self-directed violence. Using secondary data and a sample of young people aged 12 to 21, they found that social media was a way for individuals to exert violence against their peers. The study also showed that although some violence was confined to online space, other violence was offline. Similarly, a study based in Belgium revealed that adolescents who have cyberbullied in the last three months were more likely to become victims and bystanders of cyberbullying and are often

perpetrators of traditional bullying (Vandebosch & Van Cleemput, 2009). Likewise, Choi et. al. (2017) studied the cyber victim-offender overlap. Using an integrated theory of cyber routine activity theory, they tested a sample of 272 college students in Massachusetts and found that respondents who engage in risky online leisure activities are more likely to experience interpersonal violence in cyberspace. They also revealed that poor online security management contributed to the likelihood of being victimized, and respondents who participated in risky social networking site activities were more likely to commit cyber violence.

Ybarra et. a. (2011) evaluated the effects of technology-based violent experiences such as bullying, harassment, unwanted sexual experiences, victimization, and technology-based hate sites on the health of children. Three waves of data were collected from a nationally representative sample of 1588 American youth aged between 10 and 15. The results reported that while overall rates of violent exposures and experience due to technology use were stable, the rates of harassment victimization and offending by text messaging, unwanted sexual experience victimization, and bullying, increased over the study period. General technology use and age were significant factors in experiencing cyber violence. Song et. al. (2015) studied the impact of macro-level opportunity factors on cyber-theft victimization. They used criminal opportunity theory to examine the association between internet access, online activities, household activities, and the likelihood of cyber-theft victimization. The study data came from all 50 states in the United States collected by the Crime Complaint Center and the U.S Census Bureau. The results showed that

people who have access to the internet and are home alone 12.7% more likely to be victims of cyber theft. This is especially true for unemployed and non-urban people. Moreover, cyber-theft victimization rates rise by 17.4% and 18.5% respectively for males and people aged 18 to 64. Likewise, Akgul (2021) employed RAT to assess the impact of adolescents' online behaviors on cyber victimization and cyber bullying experiences. The study used a convenience sample of 1046 Turkish high school students. The author found that, when controlling for gender, respondents' online activities, such as sharing visual materials or personal information online as well as interacting with people on the internet, significantly increased the likelihood of victimization.

### *Cyberbullying and Its Impacts*

Cyber offending and victimization have negative impacts on adolescent's physical and mental health. McCuddy et. al. (2016) sought to evaluate the effects of traditional bullying, cyberbullying, and dual bullying on delinquent behaviors. Using the G.R.E.A.T. data, they found that general, violent, and nonviolent delinquency were positively and significantly associated with substance use. Moreover, cyberbullied students were more likely to use substances and commit other offenses (80% of the respondents) than those who were traditionally bullied (67% of the respondents). Cyberbullied victims encounter powerful negative consequences (Hoff and Mitchel, 2008) and psycho-social consequences such as lower self-esteem (Patchin & Hinduja, 2010) anxiety, fear, and lack of concentration (Athanasίου et al., 2018), which, in turn,

have impacts on academic performance, skipping school, getting suspended or detention, and weapon carrying (Hay et. al. 2010, Hoff and Mitchel, 2008, Hinduja and Patchin, 2007). Perren et. al. (2010) examined the relationship between traditional bullying and cyberbullying and cyber victimization in Australia and Switzerland. They found that adolescents that experienced victimization and bully-victims had more depressive symptoms than bullies and non-involved children. Also, adolescents who experienced cyberbullying were more likely to have depressive symptoms even when controlling for traditional bullying and victimization (Ortega et al., 2012; Nixon, 2014).

Bonanno et. al. (2013) examined the relationship between cyberbullying-either as a victim or an offender- and internalizing problems such as depressive symptoms, suicidal tendencies, and getting involved in traditional bullying. In a sample of 399 Canadian youth whose average age was 14.2 years, the study found that cyberbullying, either as a victim or an offender, was associated with depressive symptoms and suicidal ideation, and this did not differ by gender (Bonanno et. al., 2013; Brown et. al., 2014 and 2017). Likewise, Brown et. al. (2017) assessed the association between cyber victimization and student social-emotional consequences. They aimed to comprehend if there was a gender difference in the rates of cyber victimization, differences in social-emotional outcomes across victimization classes, and overlap between traditional and cyber victimization and internalizing and externalizing problems. In a sample of 1152 high school students, they reported that boys were more

likely to be cyber victimized than girls, and cyber victimization had more severe impacts on students than traditional victimization.

### *Gender and Cybercrime Offending/Victimization*

Sengupta et. al. (2011) examined the impacts of using social networking sites on teenagers, especially harassment experiences, bullying, and of parental awareness on internet abuse. Using a nationally representative survey of 935 youth aged from 12 to 17, the authors maintained that having accounts on social networking sites had a strong association with online abuse of teenagers. Studies have found that females are more prone to be cyber-bullied and cyber-harassed than males (Sengupta et. al, 2011; Li, 2006). For females, sharing classified information, for example instant messenger id, school information, and pictures of oneself with others had strong association with harassment. On the contrary, those who used social media less frequently were less likely to be harassed. Also, adolescents living with married parents were 37 percent less likely to have social networking sites account meaning less harassment. Moreover, girls encountered higher levels of cybervictimization, and they were less likely to prevent online risks (Stromiere et. al., 2020). On the contrary, one study based in Canada found that males were more likely to be bullies and cyberbullies than females (Li, 2006; Aricak et al., 2008). However, cyber victimization varied in terms of sex. While immigrant males were more likely than non-immigrant males to be cyber-victimized, nonimmigrant females were more susceptible to cyber-victimization.

*Immigration Status and Cybercrime Victimization*

Ergin et al (2021) explored the factors of ethnic-based cyber bullying in Turkey. They investigated the role of adolescents' as well as their peers' attitudes towards immigrants and highlighted if immigrant status is related to cyberbullying. A mixed-method study revealed that adolescents' and their peers' attitudes towards immigrant students were associated with ethnic based cyber victimization. Stromiere et. al. (2020) examined if social position such as gender, migration, and family status, intrapersonal variables such as online risk behaviors, motives of internet use, interpersonal variable such as victimization and bullying, family-level variables such as parental mediation, and class-level variables such as teachers' mediation and ethnic diversity can account for biased-based cybervictimization. Using a sample of 1018 Austrian adolescents, they found that a higher number of immigrants in classrooms was related to an increase in bias-based cybervictimization. Likewise, being Black was positively and strongly associated with cyberbullying (Moon et. al., 2010).

However, Kenny et al (2020) found slightly different results in their study. They sought to identify the traits associated with cyber-victimization among immigrants and nonimmigrant adolescents on personal, interpersonal, and contextual levels. Using a representative sample of 27,425 Canadian adolescents and adults, they found there was not much variation in cyber-victimization between immigrants and nonimmigrant. Moreover, Kim et. el. (2020) examined the negative consequences of cyber-bullying on young immigrants. They wanted to observe if young people's ICT

use, for instance, leisure and information, could predict cyber-victimization. Using the NCES National High School Longitudinal Study of 2009, results of the study suggested that fighting against cyberbullying of young immigrants is necessary. Additionally, the study also demonstrated that detrimental effects of ICT use by young people for leisure are more evident than those who use it for information. It recommended that as immigrant students use ICT for multiple purposes, they should be given special attention to prevent cyberbullying. Surprisingly, white students in the USA were more likely to get involved in cyber offending by 55% (Nodeland, 2020).

### The Current Study

As described in the reviewed literature above, youth behavior is driven and channeled by many social relationships including social bonds with family and school, risky lifestyles, and self-control over socially or legally prohibited behaviors. While many of these social relationships (i.e., social bonds with family and school, high self-control) have the potential to keep adolescents behaving in line with the expectations of social norms and values, others such as risky lifestyles and gang involvement may lead them to the opposite direction, violating those norms and values (i.e., crime and delinquency). None of these relationships, as observed above, occur in alienation. Rather, they often overlap with each other. Strong social bonds, for example, attachment to family and involvement in prosocial activities (e.g., spending quality time with parents, joining school clubs, community volunteering) and higher self-control (e.g., saying no to drugs when offered and avoiding people who may influence

to engage in socially unaccepted behaviors) may prevent adolescents from getting involved in delinquency and crime. On the other hand, not having strong social bonds increases the likelihood of being influenced by negative socialization relationships, i.e., risky lifestyles and delinquency (Bender, 2012). Thus, parent's failure to monitor children's behavior, to recognize deviant behavior among children, and to punish for committing crimes or engaging in deviant activities increases the likelihood for them to perpetrate (Gottfredson and Hirschi, 1990; Dishion et al., 1991). The reviewed literature also suggests a prevalent association of low self-control with both traditional bullying and cyberbullying. Development of higher self-control through positive socialization and monitoring could predict adolescents from delinquency and crime (Gottfredson and Hirschi, 1990), which may include cyberbullying. In addition, the literature also indicates that risky lifestyles are associated with cyberbullying perpetration and victimization. If individuals and properties are left without capable guardians, the offenders are more likely to perpetrate and with capable guardianship, the likelihood is less (Felson and Cohen, 1979). Individual's online risky behaviors and risky online activities caused to increase the likelihood of cybervictimization (Pratt et. al.,2010; Wick et. al., 2017; Song et. al., 2015; and Akgul, 2021). Also, delinquent lifestyles have significant association with perpetration (Vandebosch & Van Cleemput, 2009; Wick et al., 2017) and victimization (Lauritsen, 2021; Akgul, 2021). Similarly, parental monitoring and teachers monitoring in the school can protect adolescents from cyberbullying behaviors (Hinduja and Patchin, 2013), and weak family bond



as well as weak school commitment is associated with increased likelihood of becoming involved in cyberbullying perpetration and cyberbullying victimization (Chan, 2017).

Based on the reviewed literature, the present study will test the following hypotheses:

Hypothesis 1: There is an overlap between cyberbullying offending and cyberbullying victimization. Hypothesis 2.1: Adolescents who have greater attachment to family will be less likely to perpetrate cyberbullying.

Hypothesis 2.2: Adolescents who have greater attachment to family will be less likely to experience cyberbullying victimization.

Hypothesis 3.1: Adolescents who are more involved with conventional activities will be less likely to perpetrate cyberbullying.

Hypothesis 3.2: Adolescents who are more involved with conventional activities will be less likely to experience cyberbullying victimization.

Hypothesis 4.1: Adolescents who have higher self-control will be less likely to perpetrate cyberbullying.

Hypothesis 4.2: Adolescent who have higher self-control will be less likely to experience cyberbullying victimization.

Hypothesis 5.1 Adolescents who have risky lifestyles will be more likely to perpetrate cyberbullying.

Hypothesis 5.2 Adolescents who have risky lifestyles will be more likely to experience cyberbullying victimization.

## **CHAPTER III**

### **DATA AND METHODS**

#### Sample

This study used the Arizona Youth Survey (AYS 2022), a cross-sectional survey administered to 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grade youth under the authority of Arizona State Criminal Justice Commission Statistical Analysis Center and in collaboration with the Arizona State University School of Criminal Justice. The data represent all 15 Arizona counties and public, private, and charter schools that serve 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grades (Arizona Youth Survey State Report [AYSSR], 2020). The AYS was drawn on the well-recognized “Risk and Protective Factor” (Hawkins et. al., 1992) model to gather data about high risk-behaviors. Although the AYS 2020 was scheduled to be administered between February and May, it was postponed by school closure due to the COVID-19 pandemic and scheduled again between September and November. A total of 30,052 students from 152 schools (19,677 students from 99 schools in the Spring and 10,375 students from 53 schools in the Fall) took part in the survey. All schools (1,268) enlisted in the National Center for Education Statistics’ Common Core of Data (2018-2019). Students attending school in-person only completed the survey. The survey followed proper planning and uniform administration procedure to maintain validity and representativeness of data. The survey authority contacted each school by email or mail. Schools that did not reply to mails or emails were called by phone. 210 schools of total 1268 agreed to take part in the survey. Of 210 schools that agreed to participate, 152 school took part in the survey. 39 schools of those did not

participate in the survey reported COVID-19 associated problems and 16 of those did not get back to fix a schedule, and 3 of those declined to participate. Among those completed the survey, 39 schools chose the paper survey administration, and 113 schools selected the online survey administration. The rates of participation varied. On the whole, 12% of the schools that served 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders partook in the survey and 11% of the students from these graders completed the survey correctly. Maricopa county had 92 schools that participated in the survey and supplied two-thirds of the students, although the participation rate (11%) was similar to state participation rate (12%). Cochise and Greenlee counties did not participate in the survey, and Coconino, Graham, Santa Cruz, and Yuma had very low rates of participation despite huge recruiting efforts (Arizona Youth Survey State Report [AYSSR], 2020).

The sample consists of 50.41% male and 49.59% female adolescents. The mean age of the participants is 15.6. The minimum and the maximum age are 11 and 17 consecutively. The age of the participants is significant because the middle school is considered the prime age for cyberbullying perpetration—offending peaks in middle teenage (Hirschi and Gottfredson, 1983)—and victimization, but it declines in high school (Williams & Guerra, 2007). 54.95% of the sample is non-White and 45.06% is White, which is representative of the state of Arizona. Missing data was dealt with through listwise deletion, and those who had missing data for the dependent variables were dropped from the study.

## Measures

### *Dependent Variables*

This study used two dependent variables to assess the cyberbullying victim/offender overlap. To measure the cyberbullying offending, respondents were asked to record how many times in the past 12 months they harassed or made fun of another person online or through text. To measure cyberbullying victimization, respondents were asked to report how many times in the past 12 months they were harassed or made fun of by another person online or through text. Both the dependent variables were dichotomized wherein “1” indicated one or more reported cyberbullying offending or victimization and “0” indicated no cyberbullying offending or victimization respectively. The variables were dichotomized so that they could be associated with the independent variables to assess the overlap of cyberbullying victim-offender overlap.

### *Independent Variables*

General delinquency was conceptualized by asking respondents about their involvement in a variety of offline delinquent acts. Participants were asked how many times during the past 12 months they had committed 10 delinquent acts. The variables were coded as “never” =0 “1-2 times”=1, “3-5 times” =2, “6-9 times” =3, and “10 or more times” = 4. These were summed, and the final scale had a Cronbach’s alpha of 0.7809 in which higher scores signified more involvement in delinquency. Also, Offline offending was used a control variable in this study. Respondents were asked if they belonged to a gang during the survey. A four-point response options included no

(coded 0), no, but would like to (coded 1) yes, but want to get out (coded 2), and yes, belong now (coded 3). This variable was dichotomized (0= no, 1= yes).

A total of 40 survey items were included to hypothesize five different social bonds. The items were selected based on previous research findings. Scales were constructed using principal component analysis (PCA). Varimax Rotation was used to see the correlation among the items. K1 rule (i.e., eigenvalue > 1.0) was deployed to decide the number of factors. A rotated component matrix showed that items loaded onto five scales that represented social bonds. Measurement validity of the scales was examined by estimating Cronbach's Alpha. All but one scale had an alpha score greater than 0.7, which was well above the standard score. These scales are presented in Table 1.

Parental monitoring involved 8 survey items regarding parent's supervision of their children's activities. Participants were asked the following questions: The rules in my family are clear, When I am not at home, one of my parents knows where I am and who I am with, if you drank some alcohol without your parents' permission, would you be caught? My family has clear rules about alcohol and drug use. If you carried a handgun without your parents' permission, would you be caught? If you skipped school, would you be caught by your parents? My parents ask if I have gotten my homework done. Would your parents know if you did not come home on time? A four-point Likert scale response set was used for each variable to record the answers wherein "NO!" was coded as 1, "no" as 2, "yes" as 3, and "YES!" as 4.

Table 1 Rotated Component Matrix Model

Scales and items	Rotated Coefficient	Mean	SD
Family monitoring (Alpha=.784)			
Rules in family are clear	.583	3.21	.775
If I am not at home, one of my parents knows where I am or who I am with	.675	3.34	.767
If you drank some alcohol without your parents' permission, would you be caught?	.622	2.75	1.015
My family has clear rules about alcohol and drug use	.670	3.36	.836
If you carried a handgun without your parents' permission, would you be caught?	.681	3.36	.912
If you skipped school, would you be caught by your parents?	.696	3.39	.824
My parents ask if I have gotten my homework done	.486	3.08	.946
Would your parents know if you did not come home on time?	.647	3.25	.845
Parental attachment (Alpha= .878)			
Do you feel very close to your mother?	.834	3.23	.935
Do you feel very close to your father?	.877	2.87	1.081
Do you share your thoughts and feelings with your mother?	.758	2.73	1.024
Do you share your thought and feelings with your father?	.792	2.35	1.022
Do you enjoy spending time with your mother?	.813	3.31	.834
Do you enjoy spending time with your father?	.847	3.08	.984
My parents give lots of chances to do fun things with them	.447	3.03	.899
My parents notice when I am doing a good job and let me know about it	.820	2.59	.949
How often do your parents tell you they are proud of something you have done	.803	2.61	.982
Involvement (Alpha= .691)			
Are your school grades better than the grades of most students in your class?	.430	2.68	.866

Table 1 Continued

Past year in school how often did you: Enjoy being in school?	.688	3.11	1.021
Try to do best work in school	.678	4.00	.931
Past year how often did you feel that the schoolwork you were assigned was meaningful?	.764	2.79	1.028
Past 12 months how many times have you: Done extra schoolwork?	.727	1.64	1.468
Volunteered for community service?	.786	1.17	1.458
Participated in school clubs?	.801	1.82	1.535
Individual belief (Alpha= .913)			
How wrong do you think it is for someone your age to: smoke cigarettes?	.759	1.55	.808
Vape e-juice/e-liquid nicotine?	.839	1.86	.956
Drink alcohol at least once or twice a month?	.822	1.87	1.036
Have one or two drinks nearly every day?	.773	1.56	.811
Smoke marijuana?	.782	2.08	1.153
Use illegal drugs besides marijuana?	.664	1.38	.707
Take a handgun to school?	.747	1.13	.488
Parental Belief (Alpha= .875)			
How wrong do your parents feel it would be for you to: smoke cigarettes?	.759	1.15	.478
Drink alcohol at least once or twice a month?	.616	1.19	.793
Have one or two drinks nearly every day?	.758	1.37	.551
Smoke marijuana?	.633	1.39	.801
Use illegal drugs besides marijuana?	.799	1.09	.407
Pick a fight with someone	.572	1.53	.799
Use prescription drugs without?	.764	1.13	.476
Steal something worth more?	.688	1.31	.631
Draw a graffiti or picture	.720	1.26	.605
Self-control (Alpha= .872)			

Table 1 Continued

During the past 30 days, if you did not use tobacco, alcohol, prescription drugs, marijuana, or other illegal drugs, please tell us about some of the reasons for not using them. Not interested in drugs			
Not interested in drugs	.522	.76	.427
Parents would be disappointed	.783	.64	.481
Other adults would be disappointed	.770	.44	.497
Parents would take away privileges	.731	.49	.500
Might get kicked out of school, sports, cheerleading, etc.	.647	.40	.490
Would get a bad reputation	.694	.37	.484
Friends would stop talking to me	.521	.21	.4-9
Illegal and could get arrested	.744	.50	.500
It can harm my body	.750	.63	.482
Other	.301	.31	.461

Parental attachment included questions regarding both father and mother. 9 survey items were included in the scale: Do you feel very close to your mother? Do you feel very close to your father? Do you share your thoughts and feelings with your mother? Do you share your thought and feelings with your father? Do you enjoy spending time with your mother? Do you enjoy spending time with your father? My parents give lots of chances to do fun things with them. My parents notice when I am doing a good job and let me know about it. How often do your parents tell you they are proud of something you have done? These items were also coded as mentioned above.

Involvement consisted of participation in prosocial activities and their attitude towards these activities. Items included: Are your school grades better than the grades



of most students in your class? This item was coded as “NO!” = 1, “no” = 2, “yes” = 3, and “YES” = 4. In the past year in school how often did you: Enjoy being in school? Try to do best work in school? Past year how often did you feel that the schoolwork you were assigned was meaningful? These items were coded as “never” = 1, “seldom” = 2, “sometimes” = 3, “often” = 4, and “almost always” = 5. In the past 12 months how many times have you: Done extra schoolwork? Volunteered for community service? These two items were coded as “0” = never, “1” = 1-2 times, “2” = 3-5 times, “3” = 6-9 times, “4” = 10+.

Individual belief included seven survey items. Respondents were asked the following: How wrong do you think it is for someone your age to smoke cigarettes? Vape e-juice/e-liquid nicotine? Drink alcohol at least once or twice a month? Have one or two drinks nearly every day? Smoke marijuana? Use illegal drugs besides marijuana? Take a handgun to school? These items were coded as “very wrong” = 1, “wrong” = 2, “a little bit wrong” = 3, “not wrong at all” = 4.

Parental belief involved nine survey items. These questions were phrased slightly differently by asking “how wrong do your parents feel it would be for you to” and then included the same items in the individual belief scale. Likewise, the coding was the same as the individual belief items.

The self-control measure consisted of two scales. For the first scale, respondents were asked: During the past 30 days, if you did not use tobacco, alcohol, prescription drugs, marijuana, or other illegal drugs, please tell us about some of the reasons for not using them. A thirteen-point answer response was coded as

“no/unchecked” = 0 and “yes/checked” = 1. The answer options for respondents included: 1) Not interested in drugs; 2) Parents would be disappointed; 3) Other adults would be disappointed; 4) parents would take away privileges; 5) Might get kicked out of school, sports, cheerleading, etc.; 6) Would get a bad reputation; 7) Friends would stop talking to me or hanging out with me; 8) illegal and could get arrested; 9) it can harm my body; and 10) other. The second scale included five survey items, four of which asked during the past 30 days how many times did you respond in the following ways when offered tobacco, alcohol, prescription drugs, marijuana, or other illegal drugs. The items were coded as “never” =0, “1 time” =1, “2 times” = 2, “3 times” =3, and “4 times” = 4 or more time. The fifth item asked During the past 30 days, how often have you avoided people or places because you might be offered tobacco, alcohol, prescription drugs, marijuana, or other illegal drugs? Responses were coded as “0 time” =0, “1 time” =1, “2-3 times” =2, “4-6 times” =3, “7-10 times” =4, and “11 or more times” =5.

### *Control Variables*

Several demographic control variables were used as controls. For instance, to measure low socioeconomic status (SES), participants were asked if they received free or reduced-cost lunch from the school (0= no and 1= yes). Age was respondents' age during the survey. Race was dichotomized into 0 = non-white and 1 = white.

### Analytic Strategy

To examine the overlap of cyberbullying offending and victimization, several analyses were performed. Pearson's  $r$  correlations were used to show the degree of overlap between offending and victimization of cyberbullying (Pusch and Reisig, 2021). In addition, this study conducted bivariate probit regression to examine the effects of independent variables on the cyberbullying overlap (Toman, 2019; Reisig and Holtfreter, 2018; Jennings et. al., 2011; Silver et. al., 2011). To assess this overlap, bivariate probit regression model measured rho ( $\rho$ ). Significant rho scores suggest that assumption of independence between the two dependent variables is violated. The study used clustered robust standard errors because respondents were clustered within schools.

## **CHAPTER IV**

### **RESULTS**

#### Descriptive Findings

Descriptive statistics are presented in Table 1. The mean age of the respondents is 15.6 with a minimum of 11, maximum of 19, and a standard deviation of .3786. Age 13 and 17 represent the highest number of respondents consisting of 18.81% and 18.13% of the sample. The sample consists of 50.41% male and 49.59% female respondents. Approximately 46% of the sample received free or reduced-cost lunch. Almost all the respondents (98.11%) reported not currently being involved in a gang.

Table 2 Descriptive Statistics

Variables	Mean	Min	Max	Percent
age	15.36	11	19	13= 18.81, 17= 18.13
gender	-	1	2	Male=50.41, Female= 49.59
Lunch	-	0	1	No= 54.06, Yes= 45.94
Offline offending	-	0	1	NO= 98.11 Yes= 1.89
Race	-	0	1	Non-white= 54.95, White= 45.05
General delinquency	1.63	0	48.31	
Family monitoring	22.83	7.12	28.5	
Parental attachment	23.43	8.11	32.44	
Bonds to parents and school	14.77	3.14	27.57	
Teen belief	10.47	6.14	24.57	
Parental belief	10.35	8.11	32.44	
Self-control over drugs	4.74	0	9.1	
Self-control over bad people	4.63	0	17.8	
Bully offending	-	0	1	No= 82.65, Yes= 17.35
Bully victimization	-	0	1	No= 73.26 Yes= 26.74

The dichotomized race variable shows that about 54.95% of the sample consists of non-White and 45.06% White. For family monitoring, the mean and standard deviation are 22.83 and 4.28 respectively. For parental attachment, the mean and standard deviation are 23.43 and 5.70 respectively. The mean and standard deviation for involvement is 14.77 and 4.69 respectively. The mean and standard deviation for teen belief is 10.47 and 4.59 respectively. For parental belief, the mean and standard deviation are 10.35 and 3.69 respectively. For self-control over drug use, the mean and standard deviation are 4.74 and 3.06 respectively. Finally, the mean and standard deviation for self-control over bad company are 4.63 and 4.30 respectively. The mean and standard deviation for cyberbullying perpetration is 0.17 and 0.378 respectively. 17.35% of the sample reported being cyberbullied, while 26.74% of the sample reported that they were victims of cyberbullying.

#### Bivariate Findings

Table 2 shows the Bivariate Pearson's correlation coefficient between two dependent variables as well as other variables used in this study. First, the table presents the victim/offender relationship coefficient. Then it presents the association between other variables in this study. Results indicate a significant association between cyberbullying offending and victimization ( $r = .3414$ ,  $p < .05$ ). Age is negatively correlated with both cyberbullying offending and cyberbullying victimization ( $r = -.0474$ ,  $p < .05$  and  $r = -.0484$ ,  $p < .05$  respectively). This indicates that older respondents are less likely to be cyberbullying perpetrators as well victims of cyberbullying. The gender coefficient reveals that females are less to perpetrate cyberbullying ( $r = -.0672$ ,  $p < .05$ ). However, they are more likely to be victims of cyberbullying ( $r = .0358$ ,  $p < .05$ ). Likewise, getting free or reduced cost lunch is negatively correlated with both.

Table 3 Bivariate Findings

Variables	Cyberbully Offending	Cyberbully victimization	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13
Cyberbullying Offending	1.0000														
Cyberbullying victimization	0.3414*	1.0000													
X1. Age	-0.0474*	-0.0484*	1.0000												
X2. Gender	-0.0672*	0.0358*	-0.0212*	1.0000											
X3. Free Lunch	-0.0070	-0.0119	-0.1606*	-0.0006	1.0000										
X4. Race	-0.0142*	0.0359*	0.0981*	-0.0212*	-0.2990*	1.0000									
X5. Gang	0.1536*	0.0965*	-0.0034	-0.0622*	0.0182*	-0.0570*	1.0000								
X6. Risky lifestyle	0.4186*	0.2630*	-0.0215*	-0.0705*	0.0509*	-0.0755	0.4231*	1.0000							
X7. Family monitoring	-0.1486*	-0.0917*	-0.1454*	0.0599*	-0.0127*	0.0489*	-0.1209*	-0.2997*	1.0000						
X8. Parental Attachment	-0.1107*	-0.1242*	-0.0508*	-0.0493*	-0.0832*	0.0906*	-0.0671*	-0.2127*	0.5790*	1.0000					
X9. Involvement	-0.0877*	-0.0287*	0.0555*	0.1359*	-0.0864*	0.0921*	-0.0606*	-0.1547*	0.2547*	0.2771*	1.0000				
X10. Teen belief	0.2052*	0.1584*	0.2666*	0.0102	-0.0819*	0.0429*	0.1642*	0.3472*	-0.3432*	-0.2321*	-0.2008*	1.0000			
X11. Parental belief	0.1845*	0.1894*	0.1129*	-0.0686*	-0.0066	0.0059	0.2321*	0.3818*	-0.3109*	-0.1639*	-0.1433*	0.4688*	1.0000		
X12. Self-control over drugs	-0.0354*	0.0071	-0.1799*	0.0073	-0.0381*	0.0959*	-0.0450*	-0.1284	0.3270*	0.2431*	0.2085*	-0.3182*	-0.1942*	1.0000	
X13. Self-control over bad people	0.0146	0.0950*	-0.0421*	-0.0415*	0.0747*	-0.1082*	0.0696*	0.0688*	0.1472*	0.0756*	0.0956*	-0.1385*	0.0381*	0.0989*	1.0000

(\*p<.05)

cyberbullying offending and cyberbullying victimization ( $r = -0.0070$ ,  $p < .05$ ), and ( $r = -0.0119$ ,  $p < .05$ ), which indicates that those who get free or reduced cost lunch are less likely to be cyberbully perpetrators and victims. Interestingly, whereas being non-white is negatively correlated with cyberbully offending ( $r = -0.0142$ ,  $p < .05$ ), it is positively correlated with cyberbully victimization ( $r = 0.0359$ ,  $p < .05$ ). Becoming involved in offline offending and general delinquency had a moderate and positive correlation with both cyberbullying perpetration and victimization ( $r = 0.1536$ ,  $p < .05$ ) and ( $r = 0.0965$ ,  $p < .05$ ) consecutively. However, having risky lifestyle is moderately correlated with cyberbullying offending ( $r = 0.4186^*$ ) and victimization ( $r = 0.2630^*$ ). It is important to note that general delinquency is also moderately correlated with offline offending ( $r = 0.4231$ ,  $p < .05$ ). Family monitoring protects against both cyberbullying offending and victimization ( $r = -0.1486$ ,  $p < .05$ ) and ( $r = -0.0917$ ,  $p < .05$ ) and it is weakly associated with offending and victimization. Family monitoring also protect against risky lifestyle ( $r = -0.2997$ ,  $p < .05$ ). The results from Pearson's correlation coefficients also show that parental attachment protects adolescents against cyberbullying offending a victimization ( $r = -0.1107$ ,  $p < .05$ ) and ( $r = -0.1242$ ,  $p < .05$ ) respectively. Like family monitoring, parental attachment also guards against risky lifestyle ( $r = -0.2127$ ,  $p < .05$ ). Moreover, it has a positive relationship with family monitoring ( $r = 0.5790$ ,  $p < .05$ ). Although the coefficients for involvement are smaller, involvement also protects against cyberbullying offending and victimization ( $r = -0.0877$ ,  $p < .05$ ) and ( $r = -0.0287$ ,  $p < .05$ ). It protects adolescents from getting involved in risky behaviors ( $r = -0.1547$ ,  $p < .05$ ) and increases family monitoring ( $r = 0.2547$ ,  $p < .05$ ) and parental attachment ( $r = 0.2771$ ,  $p < .05$ ). Respondents with lower scores on the teen belief in prosocial activities variable are more likely to perpetrate cyberbullying ( $r = 0.2052$ ,  $p < .05$ ) as well as become a victim ( $r = 0.1584$ ,  $p < .05$ ). Teen belief is also moderately negatively associated with age ( $r = 0.2666$ ,  $p < .05$ ) and risky lifestyle ( $r = 0.3472$ ,  $p < .05$ ). Importantly, it is negatively associated



with family monitoring ( $r = -0.3432$ ,  $p < .05$ ), parental attachment ( $r = -0.2321$ ,  $p < .05$ ), and involvement in prosocial activities ( $r = -0.2008$ ,  $p < .05$ ). Parental belief is negatively associated with cyberbullying offending ( $r = 0.1845$ ,  $p < .05$ ) and cyberbullying victims ( $r = 0.1894$ ,  $p < .05$ ) respectively.

### Multivariate Findings

Multivariate results are presented in table 3. The constant only model (Model 1), which sets up the base line estimate, indicate cyberbullying offending and victimization overlap with a strong and significant disturbance parameter ( $\rho = .568$ ). In Model 2, when six demographic (age, gender, race and lunch) and risky lifestyle variables (gang and offline delinquency) were added to, four variables (gender, lunch, gang involvement, and risky lifestyle) were significantly associated with cyberbullying offending and victimization with 15.31% a reduction of rho ( $\rho = .481$ ). Unexpectedly, those were currently in a gang were significantly less likely to be perpetrators ( $b = -.338$ ,  $p < .05$ ) and victims ( $b = -.147$ ,  $p < .05$ ) of cyberbullying. The variable “general delinquency” was positively associated with cyberbullying perpetration and cyberbullying victimization which indicated that those who engaged in offline offending were more likely to be perpetrators ( $b = .412$ ,  $p < .05$ ) and victims ( $b = .264$ ,  $p < .05$ ) of cyberbullying. While being female was associated with being less likely to perpetrate cyberbullying ( $b = -.169$ ,  $p < .05$ ), it increased victimization risk ( $b = .154$ ,  $p < .05$ ). Race (nonwhite) was associated with cyberbullying offending, but it was associated with cyberbullying victimization ( $b = .158$ ,  $p < .05$ ).

Model 3 included the dependent variables, demographics, risky lifestyle variables and social bond variables. In Model 3, four variables were significantly associated with cyberbullying offending and victimization. The disturbance parameter was reduced by 4.15% ( $\rho = .479$ ). The directions of the variables were like as described in Model 2. In this Model also, race was not associated with cyberbullying offending but victimization. Bond variables

were associated with cyberbullying offending and victimization but most of them had opposite direction unexpectedly (which meant bond variables increased the possibility of cyberbullying offending and victimization). Parental monitoring ( $b = -.001, p < .05$ ) and parental attachment ( $b = .006, p < .05$ ) could protect adolescents from cyberbullying perpetration, whereas family involvement ( $b = .001, p < .05$ ), teen belief ( $b = .032, p < .05$ ), and parental belief ( $b = .006, p < .05$ ) were positively associated with it (perhaps due to the bigger sample size). For cyberbullying victimization,

Table 4.1 Multivariate Findings

Variables	Model 1						Model 2					
	Offending			Victimization			Offending			Victimization		
	B	RSE	Z-test	b	RSE	Z-test	b	RSE	Z-test	b	RSE	Z-test
Cyberbullying Offending												
Cyberbullying/victimization												
Age							-.049	.011	-4.20	-.043***	.007	-5.90
Gender							-.169***	.024	-6.90	.154***	.020	7.72
Lunch							-.114***	.028	-4.05	-.047***	.019	-2.42
Offline offending							-.338***	.102	-3.30	-.147***	.095	-1.54
General delinquency							.412***	.009	41.23	.264***	.009	28.99
Race							.014	.025	0.59	.158***	.023	6.61
Parental monitoring												
Parental/attachment												
Involvement												
Teen belief												
Parental belief												
Self-control-drugs												
Self-control-deviant peer												
Constant	-.954	.024	-38.38	-.624	.016	-37.02	-.239	.192	-1.24	-.435	.124	-3.50
Rho	.568						.481					
LPL	-24313.137						-21456.11					
Sample size	24,729						23,931					

(\*p&lt;.05)

However, parental attachment reduced the possibility of both being cyberbully offender and cyberbully victim. In Model 4, three variables were significantly associated with cyberbullying offending. The variables are gender ( $b = -.187, p < .05$ ), free or reduced cost lunch ( $b = -.203, p < .05$ ), and risky lifestyle ( $b = .440, p < .05$ ). Also, three variables—becoming involved in offline offending ( $b = .115, p < .05$ ), general delinquency ( $b = .229, p < .05$ ), and being white ( $b = .164, p < .05$ ) were associated with victimization. The disturbance parameter was reduced by 10.85% ( $\rho = .417$ ). It indicates that the possibility of any shocks to the dependent variables that may not be explained by the determining variables was decreased in model 4. Gender, free or reduced cost lunch, offline offending, and general delinquency predicted cyberbully perpetration. This time results were in expected direction. For cyberbullying perpetration, age ( $b = -.093, p < .05$ ), gender ( $b = -.187, p < .05$ ), and free or reduced cost lunch ( $b = -.203, p < .05$ ) were negatively significantly associated. Both being white ( $b = .011, p < .05$ ) and general delinquency ( $b = .440, p < .05$ ) were positively significantly associated with cyberbullying offending. For cyberbullying victimization, age ( $b = -.093, p < .05$ ) and free or reduced cost lunch ( $b = -.067, p < .05$ ) were negatively significantly associated. These coefficients show that both age and free or reduced cost lunch are negatively associated which means those who were younger and did not receive free or reduced cost lunch were more likely to perpetrate as well as to experience cyberbullying. On the other hand, general delinquency ( $b = .211, p < .05$ ) and being white ( $b = .169, p < .05$ ) were positively significantly associated with both cyberbullying perpetration and cyberbullying

victimization. Self-control over drugs was negatively associated with cyberbullying perpetration ( $b = -.002, p < .05$ ), while it was positively significantly associated with cyberbullying victimization ( $b = .006, p < .05$ ). Whereas self-control over deviant peer ( $b = -.002, p < .05$ ) was negatively weakly associated with cyberbullying perpetration, it was positively significantly associated with cyberbullying victimization ( $b = .016, p < .05$ ). In model 5, five measures were significantly associated. Consistent with previous models, age ( $b = -.098, p < .05$ ), gender ( $b = -.190, p < .05$ ), and free or reduced cost lunch ( $b = -.209, p < .05$ ) were negatively significantly associated with cyberbullying perpetration. Similarly, being white ( $b = -.008, p < .05$ ), parental attachment ( $b = -.004, p < .05$ ), involvement ( $b = -.001, p < .0$

Table 4.2 Multivariate findings (Continued)

Variables	Model 3						Model 4					
	Offending			Victimization			Offending			Victimization		
	B	RSE	Z-test	B	RSE	Z-test	b	RSE	Z-test	b	RSE	Z-test
Cyberbullying Offending												
Cyberbullying/victimization												
Age	-.081***	.012	-6.80	-.069***	.007	-9.26	-.093***	.017	-5.29	-0.095***	.012	-7.65
Gender	-.191***	.026	-7.28	.118***	.020	5.92	-.187***	.047	-3.97	.093***	.038	2.41
Low SES	-.109***	.028	-3.83	-.051	.021	-2.44	-.203***	.053	-3.83	-.067***	.044	-1.53
Offline offending	-.361***	.111	-3.22	-.230***	.100	-2.29	.071	.323	.22	-.115	.233	-0.50
General delinquency	.367***	.011	32.86	.216***	.009	21.70	.440***	.028	15.56	.229***	.023	9.62
Race	-.003	.025	-0.15	.150***	.024	6.25	.011***	.046	.26	.164***	.038	4.27
Parental monitoring	-.001	.003	-0.57	.017	.003	5.81						
Parental attachment	-.006***	.002	-2.56	-.025	.002	-11.63						
Involvement	.001	.002	0.44	.012	.002	5.63						
Teen belief	.032***	.003	10.90	.018	.002	7.01						
Parental belief	.006	.003		.037	.003	12.34						
Self-control- drugs							-.011	.007	-1.64	.006	.007	0.93
Self-control-deviant peer							-.002	.005	-0.50	.016***	.004	3.70
Constant	.076	.205	0.37	-.522	.137	-3.81	.657	.304	2.16	.627	.198	3.16
Rho	<u>.479</u>											
LPL	<u>-199975</u>											
Sample size	<u>22,687</u>											

(\*p&lt;.05)

Table 4.3 Multivariate Findings (Continued)

Variables	Model 5					
	Offending			Victimization		
	B	RSE	Z-test	b	RSE	Z-test
Cyberbullying Offending						
Cyberbullying victimization						
Age	-.098***	.017	-5.56	-.097***	.012	-7.58
Gender	-.190 ***	.048	-3.95	.066	.038	.004
Lunch	-.209***	.053	-3.92	-.091	.047	-1.91
Offline offending	.239 ***	.361	0.66	-0.063	.244	-0.26
General delinquency	.428***	.029	14.30	.211***	.025	8.17
Race	-.008	.046	-0.18	.169***	.041	4.12
Parental monitoring	.004	.007	0.58	.018	.006	2.64
Parental attachment	-.004	.004	-0.84	-.026***	.004	-6.36
Involvement	-.001	.005	-0.32	.008***	.004	1.98
Teen belief	.017***	.007	2.44	-.001	.006	-0.18
Parental belief	.010	.008	1.24	.039***	.007	5.60
Self-control over drugs	-.002	.008	-0.31	.013	.007	1.79
Self-control over deviant peer	-.001	.005	-0.18	.016***	.007	3.41
Constant	.439	.313	1.40	.366	.004	1.32
Rho	.422					
LPL	35.82					
Sample size	4,741					

(\*p<.05)

), self-control over drugs (b= -.002, p <.05), and self-control over deviant peer (b= -.001, p <.05) were negatively but weakly associated with cyberbullying perpetration.

For cyberbullying victimization, age (b= -.097, p <.05), free or reduced cost lunch (b= -.091, p <.05), and parental attachment (b= -.004, p <.05) were negatively significantly associated. On the other side, general delinquency (b= .211, p <.05), being white (b= .169, p <.05), parental monitoring (b= .018, p <.05), parental belief (b= .039, p <.05)

and self-control over deviant peer ( $b = .016, p < .05$ ) were positively significantly associated with cyberbullying victimization. These results suggest that being white, lower parental belief in conventional norms, values, and social rules, and lower self-control of adolescents over deviant peers increased the possibility of becoming victims of cyberbullying.

Overall, the findings demonstrated that gender, free or reduced cost lunch, current gang involvement, and risky lifestyle together could explain a large portion of the victim/offender overlap in cyberbullying.



## **CHAPTER V**

### **DISCUSSION**

#### Key Findings

Existing research has consistently found an overlap between victims and offenders for a variety of offense types (Jennings et al., 2010; Sampson and Lauritsen, 1990; Mawby, 1979). This study aimed to test the victim-offender overlap hypothesis by applying it to adolescents involved in cyberbullying. The purpose of this study was to build on the previous research that strives to better understand to what extent different theoretical frameworks--social bond theory, self-control theory, and risky lifestyle approaches—could predict cyberbullying offending and victimization. To examine the theories, several hypotheses were tested: H1: There is an overlap between cyberbullying offending and cyberbullying victimization; H2.1: Adolescents who have greater attachment to family will be less likely to perpetrate cyberbullying; H2.2: Adolescents who have greater attachment to family will be less likely to experience cyberbullying victimization; H3.1: Adolescents who are more involved with conventional activities will be less likely to perpetrate cyberbullying; H3.2: Adolescents who are more involved with conventional activities will be less likely to experience cyberbullying victimization; H4.1: Adolescents who have higher self-control will be less likely to perpetrate cyberbullying; H4.2: Adolescent who have higher self-control will be less likely to experience cyberbullying victimization; H5.1 Adolescents who have risky lifestyles will be more likely to perpetrate cyberbullying; H5.2 Adolescents who have risky lifestyles will be more likely to

experience cyberbullying victimization. In general, gender, free or reduced cost lunch, current gang involvement, and risky lifestyle predicted the victim/offending overlap for cyberbullying for the most part. Parental attachment and bonds to family and school, self-control over drugs, and bad company could partly explain cyberbullying offending. Parental attachment and teen belief could partially predict cyberbullying victimization.

The first hypothesis states that there is an overlap between cyberbullying offending and cyberbullying victimization. Findings of the study are consistent with H1 that there is a moderate overlap of cyberbullying offending and cyberbullying victimization. Routine activities theory has been mostly employed to explain the victim-offender overlap which argues that people who are offenders are also likely to be victims of violence (Berg et al., 2012). Previous research has found a strong victim-offender overlap in other crimes and has demonstrated that victims and offenders have similar characteristics and behaviors, for instance, age, sex, leisure activities, and opportunities for crime (Berg et al., 2012; Jennings et al., 2010; Marcum et al., 2014; Schreck et al., 2008). For example, Broidy et al. (2006) studied homicide and found that 57% of the offenders and 50% of victims had prior history of arrests. They also maintained that perpetrators had a 45% more likelihood of having an arrest record than victims (See also Dobrin, 2001). Silver et al. (2011) also demonstrated that there was a strong correlation between violent offending and violent victimization. Other research suggested that recurrent victimization had strong association with delinquency (Chang et al., 2003); both victims and offenders had past histories of arrests, lifestyle

characteristics, violent behavior, and neighborhood characteristics in common (Daday et al., 2005). Experiencing family violence as child has also explained physical partner abuse in adulthood (Heyman and Smith, 2002) and Jennings et al. (2011) found a significant victim-offender overlap in dating violence.

While the victim-offender overlap is evident in other types of crime, the results of this study found an overlap as well, consistent with other studies that examined cyberbullying. For instance, Lee (2022) found positive correlations between cyberbullying perpetration and cybervictimization and prior direct cybervictimization experiences had a higher likelihood of showing direct as well as indirect cyberbullying behavior. Chan et al. (2020) examined the overlap between cyberbullying victimization and perpetration with sample of 1893 adolescents in Hong Kong. The study used measures such as self-esteem, prosocial behavior, empathy, family attachment, perception of a harmonious school, sense of school belonging and positive school experiences. They found a significant overlap of between cyberbullying offending and cyberbullying victimization. Also, cyberbullying perpetration could predict cyberbullying victimization (Chang et al., 2020). Similarly, a study based in Belgium showed that adolescents who have cyberbullied in the last three months are more likely to perpetrate cyberbullying as well as to become victims and bystanders of cyberbullying (Vandebosch & Van Cleemput, 2009).

H2.1 and H2.2 indicates that adolescents who have greater attachment to family will be less likely to perpetrate cyberbullying and less likely to experience cybervictimization. Hypothesis 3.1 and 3.2 suggests that adolescents who are more

involved with conventional activities are less likely to perpetrate cyberbullying as well as less likely to experience cyberbullying victimization. This was consistent with the results of the study. According to Hirschi (1969), individuals with strong attachment to family as well as involvement in achieving conventional goals will be less likely to be engaged in delinquency and vice versa. Previous research on the victim-offender overlap of traditional bullying has found evidence of social bonds protecting the youth against bullying perpetration and victimization (Choi and Dulisse, 2021). Although social bond theory has been used to explain many deviances and crimes in the past with moderate to low support (Krohn and Massey, 1980; Gelder et al., 2018; Akers and Cochran, 1985), little is known about its use in explaining cyberbullying.

However, studies on cyberbullying support the assumptions of the social bonding theory by Hirschi (1969). For example, Hinduja and Patchin (2013) sought to assess social influences such as parents, peers, and teachers at school and their effect on cyberbullying behaviors of adolescents. By analyzing data collected from a random sample of 4400 sixth through twelfth graders, they argued that adolescents who had greater monitoring at school and home reported being less likely to perpetrate cyberbullying. Likewise, weak bond to family and weak commitment to school had associated with higher likelihood of engaging in cyberbullying (Chan, 2017).

Hypotheses 4.1 and 4.2 suggest that adolescents who have higher self-control will be less likely to perpetrate cyberbullying and adolescent who have higher self-control will be less likely to experience cyberbullying victimization. Low self-control theory by Gottfredson and Hirschi (1990) maintains that individuals with low self-

control tend to commit crime when opportunities to commit crimes are available to them. This study found results that are in line with the proposition of low self-control theory. The association between low self-control and offending has been well documented in the literature (Gottfredson, 2009; Pratt and Cullen, 2000). Other studies have extended this theoretical framework by explaining experiences of victimization (Baron et al., 2007; Forde and Kennedy, 1997; Higgins et al., 2009; Holtfreter et al., 2008; Jennings et al., 2010; Piquero et al., 2005; Schreck, 1999; Schreck et al., 2002; Stewart and Power, 2002; Stewart et al., 2006). Studies explaining cyberbullying have similar findings. For example, Nodeland (2020) examined the effects of self-control on the cyberbullying victim/offender overlap. He conducted an email survey based on convenience sampling with a sample of 517 American college students. 335 college students of the sample were cyber offenders, 381 were cyber victims, and 240 were involved in both perpetration and victimization. He found that those with low self-control were more likely to perpetrate and be victims of cyberbullying. Additional studies (Choi et. al., 2017; Donner et. al., 2014., Vazsonyi et al. 2012) mirror the findings of the current study, in that low self-control can explain both cyberbullying offending and victimization.

Hypothesis 5.1 proposes that adolescents who have risky lifestyles will be more likely to perpetrate cyberbullying and hypothesis H5.2 indicates that adolescents who have risky lifestyles will be more likely to experience cyberbullying victimization. The routine activities theory maintains that crimes occur in the presence of motivated offenders and suitable targets for criminal activities, and in the absence

of capable guardianship (Felson and Cohen, 1979). Grabosky (2001) argued that the theory could be replicated to account for cybercrime. In the current study, having risky lifestyles, including offline offending and gang involvement, was associated with both cyberbullying offending and cyberbullying victimization. This finding is consistent with previous studies. Adolescents who lead delinquent lifestyles are more likely to experience criminal victimization. Similarly, their participation in pro-social activities has been found to be protective against victimization (Lauritsen et al., 1991). Much like the findings of the current study, other research has found that routine activity theory and living delinquent lifestyles can explain cyber offending and victimization (Akgul, 2021; Patton et al., Song et al., 2015; 2014; Vandebosch & Van Cleemput, 2009; Wick et. al., 2017; Ybarra et al., 2011).

### *Implications for Theory*

Three theoretical approaches were used in this study to explain the victim/offender overlap of cyberbullying: risky lifestyles/routine activities theory, social bonding theory, and low self-control theory. Findings suggest important implications for the theories. There are several areas which future research can explore. First, in general, general delinquency has much stronger association with cyberbullying than other measures. General delinquency within routine activities theory accounted for a significant victim offender overlap of cyberbullying, consistent with previous studies using different samples (Lauritsen et al., 1991; Patchin & Hinduja, 2006; Pratt et. al., 2010; Grabosky, 2001; Wick et. al., 2017; Song et. al.,

2015). Future research can look at cyberbullying victim-offender overlap from deviant peer perspective. Second, low self-control theory stress family, specifically parents, substantially. Parent's failure to monitor children's behavior, to recognize deviant behavior among children, and to punish engaging in delinquent behavior are viewed as causes of children's crime or deviant activities (Hirschi, 1969; Gottfredson and Hirschi 1990). However, peer influence, involvement and commitment to goals, and belief in the societal norms and values are also important, as pointed out by social bonding theory (Hirchi, 1969). Future research should focus on peer influence (Wright, 2015) and interactions among self-control measures (Higgins et al., 2008). For intimate partner-based online and offline aggression and violence, future studies can explore impacts of overlap of online and offline behaviors (Hinduja et. al., 2011), therapeutic interventions for both victims and perpetrators (Wright, 2015), and the role of parental and partner attachment (Kuijpers et al., 2012; Miga et al., 2010). As bullies are usually held responsible for their actions, future research can aim at finding ways in which school personnel or parents attempt to reintegrate them to normal life (Mason, 2008). In the current study, social bonding theory partially explained the overlap, but small coefficients between bond variables and cyberbullying indicates that this theory should be explored further. Most importantly, the current victim-offender research is dominated by routine activities theory and low self-control theory. Therefore, future study should employ theories that may help better understand why people risk engaging in cyberbullying or get selected for victimization (Jennings et al., 2012).

These results lend support for future research to examine theoretical measures of cyberbullying which have not been taken into account. Future studies should assess if other theoretical accounts used in the greater--victim offender overlap literature can be applicable to cyberbullying. Some of the widely used theories such as social learning theory (Bandura and Walters, 1977) and subculture theory (Anderson, 1999) can be a viable option for future researchers to study the cyberbullying victim—offender overlap.

#### Implications for Future Research

Most studies employed routine activities theory and low self-control theory to account for cyber victimization and offending; however, other theories, demographic, and control variables can be tested in future for in-depth understanding of the problem. Also, as the data used in this study were cross-sectional, it brings some limitations as well. For instance, the data could predict only correlations between variables as they were collected at single time period. Also, cross-sectional data limits the ability to determine if low self-control identified at a given age is linear across later life (Schreck et al., 2006), as other research found that previous victimization could predict future victimization, and it enhances the likelihood of victimization (Pease and Laylock, 1996; Wittebrood and Nieuwbeerta, 2000). To better predict the causal relationship of cyberbullying perpetration and victimization, longitudinal data analysis is required (Curry & Zavala, 2020; Higgins et al., 2008). The data for this study were collected using self-reported questionnaires, instead of direct observation. Thus, it has



the potential for under-or overreporting by adolescents (Brown et al., 2017). More studies on the overlap of offending and victimization will help to present a wholistic picture of bullying (McCuddy & Esbensen, 2017) and cyberbullying. Also, representativeness of the samples is based on size and coverage of geographical locations, race and ethnicity, and gender should be considered in future research (Donner et al., 2014). For example, researchers can look at risk groups such as LGBTQ+ populations to understand how they experience cyberbullying. Future research can also use different samples, for instance people with mental health concerns, that have been examined using traditional bullying (see Silver et al., 2011 and Hiday et al., 2001). The current study shows that there is a moderate association of current gang involvement as well as risky lifestyle (i.e., a set of offending behaviors) with cyberbullying perpetration and cyberbullying victimization. Future research should also explore different kinds of offending such as violent offending, drug offending, and other offences (Jennings et al., 2012) and determine what kind of offenses are a better predictor of victim-offender overlap in cyberbullying.

#### Implications for Policy and Practice

Results of the study have important implications for policy and practice. As findings suggest that perpetrators and victims are often the same individuals for cyberbullying, setting the target group for the policy makers gets easier. Also, consistent with the findings of previous research (Jennings et al., 2010), programs can be focused on building family attachment, involvement with family and school,

developing strong self-control, and mitigating risky lifestyles. The programs can take an inclusive approach to prevent cyberbullying by incorporating parents, schools, and community members. Cyberbullying prevention messages can be conveyed via training and curricula (Patchin, 2013). For example, California Board of Education and Massachusetts Board of Education have mandated a training program on bullying and cyberbullying prevention. These programs stress safe computer and internet use, social and emotional learning, and safe learning environments. STOP OUT BULLYING is a leading national non-profit working to stop bullying and cyberbullying. More initiatives, especially focused on cyberbullying, like this should be considered to prevent cyberbullying.

## **CHAPTER VI**

### **CONCLUSION**

Existing literature showed that low self-control and risky lifestyle, for example several types of offending and substance use, were positively associated with violent victimization irrespective of gender differences (Turanovic et. el., 2015; Kranenbarg et. el., 2019). This study sought to extend the present victim-offender literature by showing if similar hypotheses can be drawn in the case cyberbullying. The results of the study are partially consistent with previous research. First, the study found a moderate overlap of cyberbullying offending and victimization. Second, it demonstrated that general delinquency has much stronger association with cyberbullying than other measures. Third, low self-control theory and social bonding theory can partly explain the cyberbullying victim-offender overlap. Fourth, demographic and control variables such as respondent current gang membership and gender have implications for cyberbullying victim-offender overlap. Negative impacts of cyberbullying such as depressive symptoms and suicidal tendency on adolescents are clear (Bonanno et. al., 2013; Brown et. al., 2014 and 2017).

Future research can look at peer influence (Wright, 2015), involvement and commitment to goals, and belief in the societal norms and values are also important as pointed out by social bonding theory (Hirchi, 1969; Higgins et al., 2008), therapeutic interventions for both victims and perpetrators (Wright, 2015), role of lower parental

and partner attachment (Kuijpers et al., 2012; Miga et al., 2010), ways in which school personnel or parents attempt to reintegrate them to normal life (Mason, 2008), and longitudinal data analysis (Curry & Zavala, 2020; Higgins et al., 2008).

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