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Policy Solutions for Juvenile Cyber-Deviant Behaviors: Insights from Criminological Theory

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POLICY SOLUTIONS FOR JUVENILE CYBER-DEVIANT BEHAVIORS: INSIGHTS FROM CRIMINOLOGICAL THEORY

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ABSTRACT

The aim of this thesis is to develop a deeper understanding of online deviance as a phenomenon among juveniles, both in terms of engagement and victimization, by applying Attachment Theory, Social Learning Theory, and Self-Control Theory. Throughout the literature, Attachment Theory, Social Learning Theory, and Self-Control Theory have been attributed as key criminological theories in the explanation of juvenile deviance offline, but little research has been applied to online deviance in this way. This thesis seeks to apply the same criminological theories to the phenomenon of online deviance among juveniles and compare outcomes to both online and offline deviance among this population to inform policy of the nuances related to engagement in these types of juvenile deviance. Using a quasi-mixed-method approach through the deployment of an embedded survey design, the study takes a grounded theory approach to ask if there is a correlation between online and offline engagement in deviant behaviors, whether low self-control, attachments, or social learning influence engagement in deviant behavior online, and what motivates juveniles to increase or decrease their engagement in online deviance. The study finds that engagement in online deviance is significantly more common than engagement in offline deviance, and as a result, the thesis aims to inform educational policy to provide the basis for updated programming aimed at the reduction of engagement in online deviance among juveniles. The significance of this study is that it develops existing theoretical understanding of the reasons for engagement in juvenile deviance, both online and offline to allow the outcomes to inform future policy or academic ventures that seek to correct behaviors related to juvenile deviance within the K-12 system.

Keywords: *Juvenile deviance, online deviance, offline deviance, policy solutions, K-12 programming, engagement, social learning, low self-control, attachment.*

DEDICATION

Dedicated to my children, Summer and Leo, who have been raised with first-hand experience of the dedication, effort, and sleepless nights taken to complete such a huge achievement.

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I'd like to acknowledge my committee, without whom it is unlikely I would have finished writing my dissertation. Thank you, truly, for the effort, advice, and sheer dedication and support you gave to being on my committee. I could not have succeeded without such a fierce committee.

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CHAPTER ONE

INTRODUCTION

Introduction

Megan Meier aged thirteen. Phoebe Prince aged sixteen. Amanda Todd aged fifteen. Tyler Clementi aged nineteen. Jamey Rodemeyer aged fourteen. Tyrone Unsworth aged thirteen. While some, especially juveniles, might not see the harm in pirating movies illegally, or those who see trolling and cyberbullying as harmless fun between friends, there are serious, and sometimes fatal, consequences to our actions, even online. Those individuals listed above are all fatal victims to cyber deviant behaviors. Megan Meier hung herself after being cyberbullied on social media; Phoebe Prince died by suicide after being bullied online and offline; Amanda Todd hung herself after continuously being blackmailed online; Tyler Clementi died by suicide from jumping off a bridge after being cyberbullied and extorted online; Jamey Rodemeyer and Tyrone Unsworth died by suicide from online and offline bullying related to homophobia (Chopra, 2022).

Since the dawn of the technological era, from the first development of information-sharing technology to the internet and cyberspace we know now, there have been concerns about safety. Such issues have evolved with the advent of new technology, the globalization of internet-connected nations, and the reliance on cyber-connectivity to

conduct business. This evolution has generated social spaces that many use to escape from the mundane realities of the 'real world'. The new frontiers of online community are as relevant as any other means of human interaction to criminality, deviancy and behavioral explanations for psychological, environmental, ecological, and other factors leading to such deviant or criminal behaviors. In the chapter that follows, this intersection of historical and online deviancy as it relates to the human condition will be discussed. Petrosyan (2023) notes that there were, at the time of publishing, 5.18 billion internet users worldwide, or 65 percent of the global population, and of those, one in three users are under the age of 18. According to the Internet Crime Complaint Center (2022), there were 800,944 reported complaints from instances of internet victimization, and 60 percent of juveniles reported to have experience with victimization online (Cook, 2023).

Problem Statement

Since technological advances in cyberspace facilitated globalization and access to online environments, there have been issues with cybersecurity, whether related to the individual, the corporation, or the state. In the last decade, there have been increased instances of cyber victimization. The effects of such victimization among juveniles have been particularly devastating with the rise in suicidal instances stemming from online victimization among high school aged youth in the US (Schonfeld et al., 2023). While historical explanations of causative factors for such online deviant behaviors have led to increased educational programming within the K-12 system, particularly in the US, there is still a need to better understand the nature of online deviancy among juveniles. Further,

due to the nature of the online environment, with social media, dating sites, banking, and every aspect of our lives moving to the cybersphere, the sheer number and types of possibilities for cybercrime and cyber deviance are astounding. From internet theft, dating violence, grooming, pornography, hacking, data theft, illicit goods, and services, it is increasingly important to understand root causes and possible solutions for deviant online behavior.

As policy implementation seeks to focus on early identification of behaviors (Hendry et al., 2023), and educational programming tries to stem those behaviors (ReachOut, 2023). Therefore, existing policy fails to fully appreciate the root causes of deviancy that spreads online. If policymakers fail to continually advance educational policy leading to programming in a way that seeks to understand changing attitudes among juveniles to personality-level attitudes, like risk-taking, or thrill-seeking, and attitudes to behaviors online that are seen as deviant, online victimization will continue to increase and have the potential to continue to impact youth suicide in the US.

I seek to describe and explain attitudes among juveniles about online behaviors that may be seen as problematic or deviant. I emphasize correlations to existing ideologies relating to criminological theory, such as attachment and self-control theories, and socio-economic factors historically linked to such behaviors in street-level juvenile deviancy. The goal of the study is to ascertain the likelihood of juveniles engaging in deviant behaviors online and offline and seek to find causes rooted in existing criminological theory. The purpose of this is to advance educational policy and

programming designed to identify and stem such behaviors in juveniles, where it relates primarily to online behaviors.

Purpose of the study

The nature of the study allows me to draw connections between attitudes expressed by survey respondents relating to online behaviors that are considered deviant, or in some cases, criminal. Such behaviors include cyber-bullying, trolling, cyber-harassment, sharing harmful or hateful content, online sexual activities, spamming, downloading content without permission or pirating, flaming, using the internet to cheat, or using the company internet for non-company use. The study also allows correlations to be made between existing theoretical explanations for engagement in offline deviance with engagement in online deviance. As we know from the mass of scholarship on explanations of deviant behaviors in juveniles [e.g. Humphrey and Palmer (2013); Clark and Wenninger (1964); Gove (1975), Kaplan (1991); Brownfield and Sorenson (1992)] , there are strong historical links between deviancy and family or community ties, positive school experiences, positive attachments to school and family, parental education level, poverty level, positive peer attachments, attitudes to rules, thrill-seeking behaviors, and deviant peer attachments, which will be discussed in depth below.

This study seeks to make connections between online deviant behaviors and traditional explanations for offline deviancy as seen in the historical scholarship on juvenile deviancy. I seek to apply alternative policy solutions, outside of traditional behavioral sanctioning, or the increase of global sanctions for appropriate internet use, to

advance current educational policy at the K-12 grade level that would be relevant to current juvenile attitudes about online deviance in a way that will decrease instances of online deviancy and victimization.

Gottfredson and Hirschi's (1990) Self-Control Theory is useful to apply to cyber deviancy. It prompts questions of which elements of cyber deviance apply best to the theory [i.e. applications of indirect parental control to provide a psychological presence in their absence through attachment, commitment, involvement, and beliefs (1990)]. Are we looking at the nature of self-control as it relates to the individual cyber deviant? Are we looking at the nature of self-control as it relates to deviant behaviors? Or, rather, are we seeking to understand the nature of Self-Control Theory as it relates to specific environmental factors and influences that occur online? For example, could an individual with low self-control maintain a level of neutrality and forgo deviant behaviors online, if the online environment they are in does not allow characteristics of low self-control to flourish? Does the nature of the online environment, i.e., online forums vs. social media, determine the likelihood that self-control will be weaker or stronger, and to what end?

Hirschi's (1969) Social Bond or Social Control Theory is also foundational to my study. Hirschi posits that social bonds are paramount to avoiding delinquency among youths, and that such bonds must include sufficient attachment to parents, peers, and school; occupational and educational commitment; academic involvement; and a belief in societal rules. I seek to understand whether such bonding needs to exist for juveniles to express deviant behaviors online, or whether low self-control is adequate without social bonding as a contributing factor.

Thus, the purpose of the study is to analyze original survey data that will permit the application of both Self-Control Theory and Social Control Theory by correlating how participants approach questions of social bonding and presence or non-presence of individual online deviant activity. As a result, I seek to apply alternative public policy to environments that form an attachment basis for individuals who may be at risk of expressing deviant behaviors online.

Research Questions

Drawing from existing scholarship on street-level juvenile deviancy and online juvenile deviancy, as well as traditional understandings based in criminological theory of why such behaviors occur, this study asks questions at the intersection of historical and modern forms of deviancy.

Firstly, do historical explanations for juvenile street-level deviancy transcend the barriers of cyberspace? May we utilize existing theories of attachment, self-control, and deviant peers to explain online deviancy in the way we explain street-level deviancy among juveniles? Secondly, do historical demographic concerns tied to street-level deviancy, such as low income, parental education level, and other socio-economic factors bear upon the causes of online juvenile deviant behaviors? Thirdly, are there stronger correlations between attitudes about specific examples of online deviancy, such as cyber-harassment, or between social or familial attachment and socio-economic factors? Are we seeking to find a causal link between socio-economic factors and online deviancy, attitudes towards specific online behaviors and justifications for deviancy, or social and

familial attachments and online deviancy? Fourthly, among participants who note that they have engaged in specific types of online deviancy and stopped or reduced their engagement, is there a common reason for such desistance? Similarly, among participants who note that they have engaged in specific types of online deviancy and failed to stop, or increased their engagement, is there a common reason for such behavioral continuance?

Finally, given what we discover in this study, specifically concerning correlations between demographic indicators and attitudes or experiences with online deviancy, can we advance policy solutions at the K-12 education level to better steer juveniles away from behaviors linked to online deviancy?

Policy Implications

Cioban et al. (2021) understand that the phenomenon of juvenile deviance influences both the macro and micro levels of policymaking. In their extensive study, they found that when considering online deviance, there are several specific indicators of the likelihood of engaging in such behaviors, including: family patterns, socio-demographic aspects, victimization, school factors, individual factors, and internet and computer use (Cioban et al. 2021). Thus, policy interventions should focus on solving issues related to the aforementioned factors that contribute significantly to behaviors related to online deviance. The present study is designed to incorporate the factors Cioban et al. (2021) identify as important into an original survey (see the methodology chapter). My study also includes qualitative questioning designed to seek deeper

understanding of desistance and increases in behavior engagement. The policy implications that will arise from this mixed-methods design will concern adaptations of current policy solutions that could improve desistance among delinquent youths, since the study not only seeks to confirm prior literature, but also to expand knowledge to include explanations for an increase or decrease in frequency of online deviance from the participants themselves.

Hardin (1968) used the term 'tragedy of the commons', drawing upon Lloyd's economic theory to explain situations where individuals who have access to public resources will act in their own interests, and as a result, the public resource will be depleted. Essentially, the tragedy of the commons explains that as individuals, we tend to act in our own best interests, often at the expense of the group, whether because the individual believes others in the group will not also act in their own self-interest or because the individual does not concern themselves with negative impacts of their own behaviors (Hardin, 1968). If we assume, as Shackelford and Craig (2014) do, that cyberspace is a pseudo commons, meaning that the internet acts like a common resource for all, much in the same was as natural resources are common goods, then perhaps we may apply the theory of the tragedy of the commons and existing counter-efforts, like developing sustainability and prevention of overconsumption, to counteract the negative effects of online deviance and criminality. If, by analogizing the tragedy of the commons to online deviance behaviors, but instead of depleting resources in actuality [like overfishing (Ostrom, 1990)], we are attempting to create incentives for individuals to

refrain from taking too much away from others in an online environment via government regulation, policy creation, or access to alternative resources to limit such behaviors.

Thus, should this study develop deeper understandings of what causes youth to engage in deviant behaviors online and what leads them to increase or decrease those behaviors, policy implications may be identified to improve regulations centered on decreasing cyber deviance among juveniles, as well as improved programming to create advanced skill-building techniques and conflict management skills rooted in this deeper understanding of root causes of desistance.

Significance of the study

In the current literature, which will be discussed in detail in the following chapters, we see traditional, or historical, explanations of juvenile deviance at the street level based primarily in demographic factors linked to those behaviors (e.g., Agnew, 1985; Akers, 1991). In more recent literature, we see the same links between explanations for juvenile deviancy applied to negative behaviors online (e.g., Bossler and Holt, 2009; Cioban et al., 2021). Throughout the scholarship on juvenile deviancy, whether street-level or online, we see comparisons between socio-economic demographic explanations and insights from criminological theory, such as self-control and attachment theories. Such considerations historically have been applied to issues of juvenile deviancy in the context of formulating policy solutions, which are often seen at the K-12 school levels via educational programming designed to identify early factors that correlate with deviancy and lead adolescents away from paths of deviancy. What is missing from the

literature is how existing programming seeks to address forms of online deviance and victimization.

The present study, which seeks to understand whether those historical explanations and socio-demographic factors specifically relate to juvenile attitudes about online behaviors more prominently than risk-seeking or attachment behaviors, could have a significant impact on educational policy that seeks to identify and stem behaviors previously linked to deviant behaviors. Thus, should the results of this study reveal differing degrees of correlation between attitudes toward specific online deviance and behavioral traits, like thrill-seeking, there may be a need to advance educational programming to better utilize resources seeking to identify and stem early behaviors. For example, let us say that policymakers emphasize identifying behaviors based in Attachment Theory and then direct specific educational programming to those behaviors. If, however, this study finds that there is a higher correlation between *risk-taking* and online deviancy, then recommendations can be made to advance the use of educational programming to identify behaviors that specifically lead to online deviancy.

General Considerations

In the application of Social Control Theory, it is important to appreciate that the zeitgeist when it was developed reflected a decade of clashing values, from the post-World War II generation to the civil rights movement and 'free love' beliefs that threatened conservative thinking of the era (Pratt et al., 2011). Thus, social control and parental control came to be seen as essential to the management of a generation that was

seen as lacking self-control. In this era, youth seemed to express characteristics that Gottfredson and Hirschi (1990) noted were key to the likelihood of engaging in deviant behaviors – characteristics such as thrill seeking, adventure seeking, and social disregard for others. When we look to the current era of technology and emergence of cyber deviance, can the same, or comparable, environmental factors be said to exist that would allow for the application of self-control to be a major influence over current juvenile deviancy online?

The use of college-age participants should be considered a limitation of the present study. Utilizing participants who are enrolled in post-secondary education means that there are certain socio-economic factors that may be limiting in the study. For example, maintaining a high enough GPA to remain enrolled in a college-level institution may suggest that such participants were dedicated, attached, and engaged during their high school experience. This means that those students who may not have been as engaged, or who failed to complete high school, are missing from the study. In future iterations of the study, it would be wise to recruit participants from K-12 level institutions, since they would be directly impacted by policy changes resulting from the study. In this study, ethical considerations, as discussed below, were taken into consideration to determine the use of convenience sampling from college-level participants.

What we know about delinquency in emerging adulthood focus on Life Course Theory, which is explained as the context in which individuals live, the experience of socially defined events over time and includes time and place, life-span development,

timing, agency, and linked lives (Blokland & Nieuwbeerta, 2010). Specifically, Sampson and Laub (1992) explain that criminological research shows a strong relationship between age and criminalistic or deviant behaviors, wherein, engagement in such behaviors will peak in late adolescence and then start to decline in frequency, with the idea being that once an individual grows in their life-course, obtains employment and stability, they are then less likely to engage in behaviors that may interrupt social ties or bonds. Thus, the inclusion of participants who are at the point in their life course where they are between late adolescence and early adulthood, and therefore criminologically inclined to be in a period of their life course where peak engagement in such behaviors is beginning to decline, are vital to the study of desistance.

In this study, ethical considerations, as discussed below, were taken into consideration to determine the use of convenience sampling from college-level participants.

Ethical Considerations

This study involves participants who may have engaged in, or been victimized by, online deviant behaviors, specifically during a time when they were still adolescents. As a result, there are ethical considerations that need to be discussed, and concerns that might need to be addressed as to the potential for harm caused by the study. Participation in the study is entirely voluntary; there is no requirement to complete or answer any question on the survey, and it is made explicitly clear that participants may withdraw from the study at any time. Further, no compensation or incentive is provided to

participants in the study. The survey design is anonymous, unless participants wish to provide contact information to engage in further studies related to this one, which is also optional. As mentioned above, the study ideally would be based upon high school participants, since that demographic is the general focus of the study. However, due to ethical considerations for engaging with adolescent participants, I chose to utilize college-age participants, who may better understand the nature of the research and potential psychological implications that may arise from such a study.

The instrument design is also such that the survey is anonymous, unless participants wish to provide contact information to engage in further studies related to this one, which is also optional. The idea is that the population sample, from college-age students, who are emerging adults, are at a peak in their life-course deviancy, and are therefore able to use recent, or current experiences in their own life course related to online deviancy (Sampson & Laub, 1992).

There may be methodological challenges to validity because of the nature of a retrospective study, especially since delinquent activities may be different from early adolescence to emerging adulthood, and therefore predicting online delinquency in youth based on retroactive experiences may cause some challenges. Trochim (2005) notes common threats to internal validity in retrospective studies, including lack of comparison or control group; historical events that influence the outcome; normal maturation that influences the outcome; and social relationships with others that may influence the outcome. In this study, these threats are taken into consideration as the survey instrument asks participants to talk about their experiences with peer group friendships and attitudes

related to specific cyber deviance. The only challenge would be a lack of control or comparison group, which would be difficult to introduce in this type of attitudinal and experience study.

CHAPTER TWO

PROBLEM BACKGROUND

Introduction

To fully understand and appreciate the current issues of online victimization and root causes of online deviant behaviors in juveniles, which are the central focus of this study, it is essential to examine how this matter became prevalent in today's juvenile experiences. In this chapter, the history of street-level juvenile deviance, along with the emergence of cyber deviance in juvenile cases, is covered in detail as it pertains to the U.S. Further, the complex differences between what we mean by cyber-deviancy and cyber-crime will be addressed. Finally, a brief introduction of criminological theories that seek to explain causation in relation to juvenile deviancy, both street-level and online, will be introduced.

A History of Juvenile Deviance

When we think about the history of juvenile deviance, it is essential to first understand what we mean by juvenile delinquency and deviance, and how those concepts have impacted the juvenile justice system that we know today in the U.S. May (1973) explains that the concept of juvenile delinquency or deviance has its origins in early

prison reforms of the 19th century, since prior to this, juvenile and adult deviants were seen as equally criminal. May (1973) explains that punishments around this time were tied to the severity of the offense committed, meaning that both adults and juveniles were sentenced to the same punishments, such as transportation, death, or imprisonment.

Hess et al. (2013) note the key periods of juvenile justice reformation in the U.S., including: the Puritan period between the mid-1600s to 1800s, during which time children were seen as inherently evil and laws were created to criminalize some typical displays of childhood development; the Refuge period, during which time children were seen as inherently good and deserving of protection from criminals via separate institutions outside of adult prisons; the Juvenile Court period, which saw juvenile cases being heard in separate courts; and the Evidence-based period that we see now, which largely focuses on rehabilitative efforts within juvenile justice. According to the Center on Juvenile and Criminal Justice (2023), during the early years of juvenile criminality, youth offenders were indiscriminately confined with adult prisoners and the mentally ill, while child poverty and neglect raged nationwide. In subsequent waves of reform, the New York House of Refuge was opened in 1825, a place designed to house juveniles who were seen as at risk for delinquent, deviant, or criminal behaviors, and became the origins of what we now know as the juvenile justice system (CJCJ, 2023).

Stone et al. (1998) explain that the types of offenses committed by youths has undergone significant change in the history of juvenile corrections. Specifically, throughout the 1980s and 1990s, many of the offenses committed moved towards more serious, often violent, behaviors, and the ages of those engaging in such behaviors was

ever decreasing (Stone et al. 1998). May (1973) also noted the existence of youths who, while not criminal by law, shared common characteristics of young criminals, and that environmental and ecological factors were often assumed to be key factors in the rise of more serious, or more violent, forms of criminality among youths.

Juvenile deviants have been treated differently over the centuries due to various reform movements, as described above. They have experienced everything from punishments by punitive-based adult sanctions to rehabilitative, training, and industrial schools, and from being housed and tried with adult offenders to experiencing their own separate juvenile justice system, including courts and institutions largely focused on rehabilitation (CJCJ, 2023). In more recent times, the Juvenile Justice and Delinquency Prevention Act was reauthorized in 2002 to support state programs assisting local communities in approaching crime prevention, vulnerable youth, and delinquency prevention programming to alleviate rising levels of youth crime (ABA, 2023). In modern iterations of the juvenile justice system, such programming, which seeks to provide training, assistance, research, development, and support housed within the community, seeks to utilize evidence-based practices to stem the root causes of juvenile delinquency and deviance by providing skills-based interventions and avoiding the detention or incarceration of youths (ABA, 2023).

The Emergence of Cyber Deviance

Though subsequent chapters will offer more detailed theoretical explanations for the emergence of cyber deviance, this section will provide a brief overview of the

beginnings of cyber deviance, particularly among youth offenders. Adler and Adler (2011) identify 'self-injurers', a group of deviants who, prior to the age of the internet, were classified as 'loners', but who, in the technological age, create subcultural relationships based in deviancy, much in the same way that traditional street-level bullying has been transformed to cyber-bullying with the advent of new technologies.

Stalans and Finn (2016) note that not only has the invention of new technologies allowed youths to move deviant behaviors from the street level to the cybersphere, but mobile applications, social media, and the advancement of information technology have also integrated and embedded themselves in almost every aspect of our society, from finance to health and education, and not just in the U.S. but globally. Over time, the accessibility of online environments, coupled with an increase in access to home computers and the integration of technological advancements into our everyday lives, created the perfect environment for deviancy and cyber-crime, with justifications for such behaviors becoming more normative (Stalans and Finn, 2016). Scholarship on cyber-crime and cyber-deviancy has focused on the application and advancement of criminological theories concerning other categories of behaviors, whether hacking and online theft or fraud, harassment, and other behaviors. Much of the literature asks whether such behaviors are old crimes in new environments, or instead have unique causes outside of those specified by existing criminological theory (Stalans and Finn, 2016).

Street-Level vs. Online Deviance

One key factor that should be considered in online deviancy research is the connection between street-level, or offline deviancy, and online deviancy. The study at hand seeks to better understand where connections might be made between participants who engage in street-level deviancy offline, and online deviancy, and whether there is a connection in subtypes of deviancy, for example, whether someone engaging in offline bullying activities also be likely to engage in cyberbullying activities. Ellonen et al. (2021) go further in seeking to understand whether parental controls moderate online and offline engagement in deviancy linked to low self-control. Ellonen et al. (2021) found differences, wherein, parental controls are associated with offline delinquency both directly and through self-control as an indirect measure, whereas parental control only indirectly impacts online delinquency. Further, the authors find that internal self-control of the individual adolescent can be moderated by external parental control in both online and offline delinquency (Ellonen et al., 2021). These findings are important in understanding the moderating effects based in criminological theory, such as parental control, in understanding how to stem such behaviors in environments both online and offline. The study at hand seeks to explore the moderating effects of self-control, parental and peer attachment and other social controls.

Cyber-Deviancy vs. Cyber-Crime

An important distinction to make is what we mean by cyber deviancy and cybercrime. In the section that follows, this distinction will be clarified regarding the

current study. In general, crime and deviance are terms often used as interchangeable explanations for the same processes or behaviors; however, the commission of a crime violates laws, while deviant behavior instead violates social norms and social rules (Yar, 2006). When we think about cyber deviance, there are several understandings from the literature that should be explored to garner a deeper explanation for the difference between what makes a behavior deviant and what makes it criminal.

Cioban et al. (2021) compile an in-depth literature review on the connection between adolescent deviance and cyber-deviance. They explain that while deviance has been extensively studied, the clustering of deviance and online deviance is relatively new to the field of social sciences. As a result, the authors reviewed prior literature, emphasizing four main clusters of ideas: predictors of deviance, online deviance, socio-constructivist theories, and theories of deviant behavior. Further, the authors highlight the most recounted predictors of deviance, which they further classified into five categories: family patterns, socio-demographic aspects, socialization, victimization, school, and individual factors. Cioban et al. (2021) proffer that to explain cyber deviance, it is important to add internet and computer use under predictors of cyber deviance specifically. The authors note the differences in approach between positivists, who believe an act is deviant when it breaks the social norms of a particular society, and constructivists, who believe it is not the act that is deviant, but the society's labeling it as such that makes it deviant. The authors also note that because of these conflicting epistemologies, i.e., positivism and constructivism, deviance itself is dependent on cultural context; it is relative to the environment in which it is judged. Thus, deviance is

subjective in nature since individuals place meaning differently upon acts in which they take part. At the same time, deviance is a voluntary experience or expression of choice for the individual. Cioban et al. (2021) explain that deviance itself can range from property crime, violent crime, general delinquency, drug- and substance-related crime, to minor antisocial acts that are not sanctioned by the penal system, specifically substance and alcohol use, marijuana use, school misconduct, self-injury, self-harming behaviors including eating disorders, and bullying. Cyber deviance specifically relies on the impact of the behavior, but should extend to behaviors that occur online, are disruptive, and include both formal and informal violations of law or norms (Cioban et al. 2021). Specifically, cyber deviance can include behaviors such as digital piracy, online harassment, computer hacking, cyberbullying, sexting and online sexual exposure, internet-based radicalization, online negative user behavior, cyber dating abuse, social spamming (the act of posting repetitive and excessive messages that violate platform guidelines), and other problematic uses of the internet including social media (Cioban et al. 2021).

Karaian (2012) defines ‘sexting’ as the act of sending, posting, or possessing sexually suggestive text messages and images on cell phones or over the internet, and notes that one Pennsylvania District Attorney found it to be such an issue among teenagers that he threatened to bring child pornography charges against teenagers engaging in this type of deviant behavior when they would not agree to attend re-education programming. This threat was challenged in court, and the phenomenon is still widely engaged in. Karaian’s article discusses the cultural and legal narratives around the

phenomenon of sexting, sexual expression, and censorship, and what this means for the gendering of sexting that is often imposed on females who engage in the behavior. Other relevant literature often portrays females as the victims of sexting, as lacking in sexual agency, and being prey to generational changes in attitudes to sex. The overarching idea here is that engaging in sexting as a form of deviance is intended to be an indicator of further societal harms. It is this construction of sexuality and sexual expression focused on young girls, and allowing sexting to go unsanctioned would further perpetuate the exploitation of female sexuality, akin to Calvert's perspective on the Lolita Effect. This idea that self-exploitation should be sanctioned does not sit well with feminist theory, which is relevant to a wider theme in the literature on deviance versus criminality in the realm of inappropriate cyber behaviors as well as in the context of sanctioning based on protecting female adolescents who are not deemed capable of protecting themselves.

Lee (2018) makes the initial point that the increase in cyber deviance among youth may be in part attributed to the fact that ownership of home computers and devices connected to internet networks has increased among young people, but that there are additional factors associated with their participation in online deviancy. Lee's study explores correlations between multiple types of cyber deviance, including media and software piracy, computer hacking, and online harassment with theoretical and demographic characteristics. He finds that low self-control and deviant peer association are among the key characteristics related to those specific forms of cyber deviance. Lee also notes that time spent engaging in online activities is also correlated with participation in deviant behaviors online. Gottfredson and Hirschi (1990) emphasize the

importance of the Self-Control Theory to understanding cyber deviance. They explain that self-control accounts for differences in the propensity to engage in criminal activities regardless of demographic factors, and attribute this to a lack of parental monitoring. In short, previous research about juvenile cyber deviancy emphasizes correlations between self-control and engagement in cyber deviance, though samples are often limited to high-school and college-age students who freely admitted to hacking and piracy, but not many of the other types of cyber deviance.

Louderback and Antonaccio (2017) look at the relationship between thoughtfully reflective decision-making, cyber deviance, and cyber victimization. The authors posit that their study can be used to inform the development of policies that seek to reduce computer-focused crime in general, and specifically when applied at an institutional level. Louderback and Antonaccio (2017) also suggest policy implications related to the findings of their study, since their results overall showed a positive effect of reflective decision-making on cyber deviance activities. They posit that institutional-level policymakers could develop programming to implement components of this level of thinking to improve cognitive skills and reduce online deviant behaviors. They also note that cybersecurity developers could use the approach to increase cognition around using computer-based digital guardianship to better prevent cybercrime victimization. One drawback of this study is that the findings were most often salient when applied to older employee victims of computer-based cybercrime, where the computer acts as a tool rather than the target (Louderback and Antonaccio 2017). This means that, although the article itself is an important component of the body of work on cybercrime, cyber deviancy, and

cyber victimization, it is not adaptable to examining cyber deviance among juveniles. However, the policy implications section of the study is particularly useful for its application of new cognitive training programs, such as the implementation of components of the authors' reflective decision-making ideology into institutional settings to further reduce cyber deviancy and victimization (Louderback and Antonaccio 2017).

Navarro et al. (2014) conduct an investigative study looking into problematic internet use and seeking to find a relationship between internet addiction and digital piracy. The authors hypothesized that the significance of internet addiction would lead to increased digital piracy instances and that internet addiction would also affect the importance of online relationships. This piece shows that deviant peer associations increase the frequency of online deviance, in this case the likelihood and frequency of digital pirating. In the interest of contextual clarity, the authors explain that internet addiction accounts for problematic use of the internet in a way that is both time-consuming and detrimental to their functioning offline. The authors also report that the typical indications that an individual has internet addiction tendencies include tolerance level, withdrawal symptoms, preoccupation, craving and a lack of control despite offline consequences. One drawback of this study is, as the authors note, that there is no connection or link that has been studied between internet addiction and digital piracy as a form of cyber deviance. Thus, the results of the article by Navarro et al. (2014) have not been confirmed or disconfirmed by more recent scholarship. However, the themes raised in the article are still relevant in a way that adds to the overall body of research. Specifically, the authors note that the period of adolescence allows for broad discovery of

interests and the general development of personality traits and identity, but find that as a result, individuals are often more easily persuaded to participate in deviant behaviors to gain acceptance. Navarro et al. (2014) assert that these circumstances combine to cause negative consequences including internet addiction, which will lead to offline consequences such as poor school performance, parental conflict, and increased likelihood of offline crime. It is worth noting again that such consequences have not been broadly studied across the literature and as such should be taken with a pinch of salt. However, the overarching themes Navarro et al. (2014) present, such as linkages with criminological theory and internet addiction to explain online deviancy among juveniles, are valuable.

Oakley and Salam (2012) discuss the implications of cyber deviance through the lens of access to cyber citizenship, namely, access to online presence. The overarching theme of this article is inappropriate behavior with information technology in general, whether that be in an organizational setting or a personal one. In an organizational setting, Oakley and Salam note that there is a growing trend of individuals compromising sensitive information, whether that be customer-based or organizational data resources via repeated infractions against organizational security protocols. In a personal setting, the main issue raised is that of digital media piracy, for example, illegally downloading or sharing digital media in the form of video or audio files. Oakley and Salam note that, although government and organizational guidelines exist, they are not sufficient to stem the behaviors associated with cyber deviance, especially in an organizational context. Oakley and Salam make specific note that without even such basic guidelines in a

personal setting, there is vagueness concerning which behaviors are and are not appropriate, thus allowing individuals to follow societal norms to guide their behaviors rather than understanding laws and policies on the issue. According to Oakley and Salam "cyber deviance" refers to inappropriate or criminal behavior in a digital context, with factors including self-control used to explain those behaviors. Oakley and Salam further elucidate the idea of "cyber citizenship", under which individuals should behave in a way that is ethical and productive when conducting online activities – and something the authors believe has not been effectively linked to cyber deviance behavior. In all, the article examines the individual, societal, and technical factors that Oakley and Salam believe impact the individuals' intentions to become involved in cyber deviance, specifically factors including perceived utility of cyber deviance and self-efficacy, social factors, cyber citizen social norms on cyber deviance, and technical factors.

When we think about cybercrime, there are specific understandings that come to mind based on what we see in the news media, online, and in our daily experiences with online victimization. In the section that follows, the literature regarding cybercrime will be explored in detail.

Broadhurst et al. (2014) ask who engages in cybercrime, while outlining the scope of the field of cybercrime and issues concerning cyber offenders and organized crime groups. The paper specifically addresses the role of organized crime in relation to cybercrime in general, noting that organizational structures are involved, including enterprise or profit-oriented activities and cybercrime committed by state actors. Cybercrime linked to the activities of protestors is typically less well organized and

involves a weaker chain of command when compared with organized crime enterprises that are active online. The main idea in Broadhurst at el. (2014) is that criminal groups are utilizing digital spaces to extend criminal activities, but that most operate as loose networks. The article's most significant contribution is the section dedicated to challenges of cybercrime due to its relevance to possible solutions, as Broadhurst et al. set out specific understandings of the challenges involved in prevention and detection. They note cross-national differences in the capacity to prevent, detect, investigate, and prosecute cybercrimes, which are allowing cyber offenders to evade countermeasures. The authors also note that there is not enough evidence to be certain if criminal organizations are dominating cybercrime, or even to define the structure that online organized crime groups take; we just know that they exist.

Dashora (2011) writes of the parallel lives people lead between the internet and the 'real world'. The internet is seen as a way of life for most people, through the enabling of the rapid increase in cyber technology. As a result, Dashora notes that cybercrime has emerged as a viable and serious global threat, leading to sanctions by governments, police departments, and intelligence units around the world. Dashora makes an important distinction between the computer as a tool and as a target, which facilitates distinguishing among types of cybercrime. He writes that when the computer is being used as a tool, it is because the individual is the target and the resulting impact is often psychological, which makes legal action or legal sanctioning difficult. On the contrary, when the computer is being used as a target, where technical knowledge is needed to commit crimes, society is often underprepared to combat these crimes since

they are relatively new. Dashora notes that cybercrime activities are commonly an instrumentality, target, or means for perpetuation of further crimes and accounts for general unlawful acts where the computer is a tool, target, or both. He notes in situations where the computer is a tool for cybercrimes, activities include financial crimes, sale of illegal articles, pornography, online gambling, intellectual property crime, and cyberstalking. Where the computer is used as a target, activities include unlawful acts including unauthorized access to the computer, computer system, or networks; theft of information contained in electronic form; e-mail bombing; data diddling; logic bombing; trojan attacks; internet time thefts; web jacking; theft of computer systems; and physical damage. Further, Dashora makes a point of listing reasons for cybercrime and posits that since the concept of law assumes humans to be vulnerable and in need of the rule of law for protection, computers are also vulnerable and thus need equal protections under the law. In relation to this contention, Dashora notes that computers are vulnerable because: they have the capacity to store data in a small space, they are easy to access, they are complex systems run by uncomplex fallible human minds, negligence is connected to human conduct in maintaining the systems, and loss of evidence is common as data are routinely destroyed. Dashora also notes that cyber criminals can themselves be categorized by type: children and adolescents between 6-18 years old, organized hackers, professional hackers, and discontented employees.

Gordon and Ford (2006) write about the general field of cybercrime as an emerging threat to wider security issues. They make a distinction between cybercrime and crimeware as emerging terms within the field. They posit that cybercrime should be

divided into specific categories: type I, which is technological in nature, and type II, which has more of a human element. They note that crimeware is a tool used in different types of cybercrime. Rather than providing the legal definition that is typical in the literature, Gordon and Ford provide a conceptual framework in the hopes that policymakers might use it to create meaningful definitions both technically and societally. They posit that type I cybercrime has specific characteristics, including singular, discrete events from the victim perspective, and facilitation by the introduction of crimeware programs that exploit vulnerabilities in the victim's software or network. Type II cybercrime involves facilitation by programs that are not crimeware and repeated contacts or events from the user perspective. Gordon and Ford (2006) draw from specific circumstances not based on legal perspectives, which is helpful when engaging with scholarship distinguishing between types of cybercrime to introduce tools associated with each type.

McGuire (2019) formulates a threefold typology of cybercrime groups including groups that primarily operate online, those that combine online and offline activities, and groups that exist mainly offline but use online technologies to enable offline crimes. Specifically, McGuire posits that groups operating online can be divided into swarms, or disorganized collectives with minimal chains of command, like 'hacktivist' groups, and hubs, which are more organized and have more diverse activities including piracy, phishing attacks, botnets, and online sexual offending. Meanwhile, swarms are more active than hubs in ideologically driven online activities like hate crimes and political resistance. McGuire the 'hubs' category into clustered hybrid groups, where offenses are

undertaken by a small group of individuals focused on a specific topic or method, moving between online and offline behaviors including skimming credit cards and using the data for online purchases, and extended hybrid groups who retain a level of coordination relative to the success of their operation. The third category in McGuire's typology is hierarchies, including traditional criminal groups, like crime families, which may export some of their activities online, and aggregate groups who are more loosely organized and are often temporary without a clear purpose.

Introduction of Explanatory Theory

Davies (1999) believes that socio-economic background is a weak predictor of deviance, while difficulties with school like low grades and the likelihood of dropping out predict engagement in deviant acts. He draws on work by Hatos (2021), who identified socioeconomic status, school engagement, and leisure style as individual-level predictors, as well as classroom-level predictors the proportion of students with fathers in higher education, and school-level predictors including the average achievement of a school's students. While Davies (1999) finds that males who are not successful in a school environment are strongly inclined to general deviancy, he also seeks to apply class-based subcultures as manifestations of broader circumstances that make socioeconomic factors such strong predictors of juvenile deviance in general. This article is useful for the lens it places on socioeconomic factors in school and individual contexts as explanations of deviant behaviors. Of particular importance to the overall body of literature on juvenile deviance is the notion of subcultures affecting youth that may be

class-based. Likewise, Davies (1999) contributes to the literature through the contention that deviance in a school setting may be strongly related to a student's socioeconomic background, family ties, and factors that might link well with other theoretical explanations. Whether or not these factors can be applied to online deviance is so far unknown, but applications of Davies' understanding of general juvenile deviance may be useful in the more specific field of cyber deviance.

Sampson and Laub (1994) explain that inappropriate parenting practices and parental supervision, as well as family structure aspects like a broken home, household size, sibling rank, and family environment can have significantly detrimental effects on deviant behaviors among youth living in those situations. The authors posited that structure and process are linked, since family poverty level inhibits the familiar processes that account for informal social control, thereby increasing the likelihood of deviancy among the youth in the home. Further, the authors find that erratic, threatening, and harsh discipline; low supervision; and weak parent-child attachments mediate the effects of poverty on behaviors resulting in delinquency. The authors explore the idea that difficult children who display antisocial behaviors in early childhood disrupt family management, and therefore informal social control within the family unit, but so do antisocial and unstable parents.

Cioban et al. (2021) note that positivists have attempted to identify specific deviant traits in individuals and measure individual inclination toward engaging in deviant acts as means of distinguishing deviants from non-deviants. Simply put, the authors note that positivist theorists contend that an act is seen as deviant because it

breaks the norms of a particular society, whereas constructivists notice that some acts are perceived as deviant only in certain contexts but are not universally categorized as deviant, distinguishing between deviance and crime. Further, they explain that labeling theory, interactionism, phenomenological theories, and social conflict theories are an essential to the study of juvenile delinquency, as constructivists argue that it is not the act that is deviant but society's act of labeling it as such that makes it deviant. The authors also introduce the digital divide theory, which asserts that the internet amplifies existing social inequalities for people lacking digital skills and opportunities for making effective use of them if acquired.

Like various other scholars, Bossler and Holt (2009) look to find root causes within the theological approaches to online deviancy in order to explain attitudes and frequency of activities contributing to online deviancy among juveniles. They utilize the 'routine activities framework' by Cohen and Felson (1979), and instead of focusing on human participants, they analyze examinations of data loss caused by malware infection within college samples. The authors explain that Cohen and Felson's routine activities theory requires convergence of three essential elements: a motivated offender, the absence of a capable guardian, and a suitable target. Bossler and Holt (2009) posit that guardianship is often attributed to having a positive effect on reducing this type of crime in reference to a person or object that acts to prevent the motivated individual from following through with their intentions. The authors note that while routine activities theory is often successfully applied to general street-level crime, such as burglary or larceny, the theory has not been adequately applied to cybercrime and cyber deviancy.

Further, while the authors do include that some studies have shown successful applications of the theory to human targets, or person-based forms of cybercrime and cyber deviance, malicious software infection and computer-target cybercrime are especially overlooked in the general body of literature. Interestingly, and in disconfirmation of other scholarship in the area, physical guardianship showed little effect in this study.

Overall, Bossler and Holt contend that policy outcomes should focus on implications that seek to decrease malware victimization on college-age students as opposed to physical interventions, like regulations or sanctioning, as such policy deterrence making access more difficult would be more beneficial than would sanctioning behaviors. One noteworthy issue raised by the authors is that proximity to motivated offenders would potentially need to be required for routine activities theory to be successfully applied to the phenomenon. However, they note a significant difference between individual targets not being in physical proximity to the individual behind the malware attack, but rather the malware itself being in virtual proximity. They also note that technological advancements mean that victims need not have a temporal interaction with the malware to be successfully targeted.

Hay et al. (2010) approach Agnew's (2001) general strain theory by indicating some unsolved issues in the original theory such as the effects of bullying, which has largely been overlooked in the literature despite being a source of strain. They also address literature regarding self-harm activities among adolescents related to the effect of bullying on external and internal deviance directed against the self, as well as recognition

of how these relationships may differ among male and female respondents completing self-report data within the study framework. Agnew's 2001 study found that bullying should be a consequential element of strain theory since it satisfies four main conditions, including: it should be perceived as unjust, and it should not be associated with conventional social control since the activity happens away from adult authority, and it should expose the strained individual to others who model aggressive behavior, i.e., the bullies. Essentially, Hay et al. utilized Agnew's work on general strain theory in relation to bullying to find that traditional, offline, physical, and verbal harassment and cyber-bullying with the same characteristics were significantly related to delinquency, confirming earlier scholarship.

Holt et al. (2012) conducted a study to assess the full social learning process based on Akers' (1981) Social Learning Theory and the 'social structure and social learning' model as an explanation for cybercrime and deviance. The authors find that social learning tends to be a second-order latent construct that can be used to explain variation in cyber-deviance. They also posit that the social learning process acts to mediate the effects of race and sex on cyber deviance. As noted in this article, Akers' Social Learning Theory posits that crime is a learned behavior that results from the interaction of four major components: individuals who associate with deviant individuals will be more likely to imitate deviant behavior and be exposed to definitions that favor the violation of law and justify or rationalize the behavior, and whether the behavior is repeated or maintained depends on the reinforcement of that behavior. Akers' theory notes that those components will also mediate the effects of variations in social structure,

culture, and deviant settings on the crime rate. Holt et al. (2012) explain that Akers' Social Learning Theory is commonly applied in the field of cybercrime and cyber deviancy research, since the value lies in the understanding that individuals who engage in cyber-deviant behaviors must learn how to operate a computer, as well as specific programming and techniques related to such behaviors. Further, they effectively apply Akers' social structure and social learning (SSSL) model to the field. This model posits that individuals are more likely to commit deviant behaviors when their patterns of differential association lean towards other deviant groups. One drawback is the notion that for the social learning process to influence individuals to continue means that those individuals should be connecting with other deviants. This may not always be the case, unless that definition is extended to associations to groups and definitions that increase those behaviors in an online space.

Holt et al. suggest that the extension of Akers' SSSL model to cybercrime and cyber deviance suggests access to social learning processes that promote cyber deviant behaviors is rooted in how individuals relate to the four dimensions of Akers' original model of social learning within the social structure. This is particularly important as we think about the applications for theoretical modeling in relation to cyber deviance, and the identification of the existence of Akers' four components in case studies or instances of repeated cyber deviance.

Lowry et al. (2014) focus on cyberstalking. Cyberstalking has received increased attention in the field of online deviancy and cybercrime, and the public has become aware of its existence. Therein, argue Lowry et al., lies the need to explore multiple theoretical

approaches as explanations for this type of online behavior. The authors note there have been too few studies of social media's role in cyberstalking. Because there is a vast difference between real-world stalking and online stalking, Lowry et al. contend that taxonomies, frameworks, and theories that help explain the former ought not to be applied to the latter. Instead, they propose a theoretical model to both predict and explain cyberstalking that integrates strands of five theories across three levels of prediction, including: the intrapersonal level, which considers emotional theory, neutralization theory, and self-control theory; the situational level, which accounts for rational choice theory; and the interpersonal level, which includes elements of Social Learning Theory. The authors explain that emotional theory, first developed by Spritzberg (2002), points out that shame and anger are most associated with the emotional element involved in cyberstalking. They also note that neutralization theory assumes that people who engage in such behaviors of delinquency also believe in social norms and the distinction between acts that are wrong and acts that are illegal but not immoral. Thus, neutralization techniques are often applied to help deviants justify that their behavior is in fact moral. The authors also include insights from several other theories in their framework, including self-control theory, neutralization theory, routine activities theory, rational choice theory, general deterrence theory, social learning theory, and the intrinsic and extrinsic effects of self-control. They further expand Self-Control Theory applications by adapting moderating effects in relation to cyberstalking specifically. From the body of literature on different elements of online deviance, specifically relating to juvenile behaviors, it is the work of Lowry et al. (2014) in this model that is most beneficial to

explanations of cyberstalking. The authors' utilization of multiple explanatory theories to predict cyberstalking is influential and useful. Another element of the authors' study that is particularly helpful in the literature is that they take the time to compare street-level, offline stalking with cyberstalking, specifically in social media environments. The authors utilize existing literature to compare characteristics of stalking behaviors online and offline, applying theoretical modeling to show why differences between the two behaviors should give rise to new models and theories. They also delve into subtypes of these behaviors, which other scholarship has not done as effectively, to better explain behavioral patterns to use as a basis for modeling application for prediction of outcome behaviors based on these subtypes.

Malin and Fowers (2009) lend their attention to cyber-deviant music and movie piracy among adolescents. They apply Gottfredson and Hirschi's (1990) theories to see whether low self-control and opportunity via computer ownership predict increased instances of media piracy. The authors note that existing literature primarily focuses on studies whose participants were college-age students and their inclinations towards online piracy. Thus, Malin and Fowers use samples of high school students and apply the self-control perspective to examine this population, including their attitudes toward internet piracy of music and movies, and whether engaging behaviors were related to self-control, biological sex, internet experience, affiliation with deviant peers, and grade level. The main findings of this study are that policy controls, or programming seeking to decrease instances of online piracy are most suited to increasing self-control for high school aged juveniles. Moreover, the authors posit that understanding online piracy is paramount

importance, not just because of a paucity of previous studies, but also because the nature of the behavior allows for more anonymity among those engaging in the behavior since it is enacted primarily in the home. The authors also emphasize that online piracy is widely perceived as a victimless crime, which leads many to perceive this type of deviancy, particularly among juveniles, as seen as harmless. However, as Malin and Fowers note, millions of dollars are lost each year in music sales, which affects not just artists, but also other professionals across the wider music and media industries. The authors find that self-control scored highest and was thus the strongest predictor of attitudes towards piracy within the study, adding further weight to the explanatory influence of control theory within the wider literature.

Weaver's (2018) article on desistance as a theoretical explanation for individuals ceasing engagement in criminal activities is another significant work in this literature. Weaver includes a comprehensive review of previous studies of desistance to advance understanding of the phenomenon. Weaver combines multiple explanations for desistance from the wider body of scholarship to explain that desistance usually refers to the act of stopping serious offending behaviors and sustaining the cessation of those behaviors in a way that is voluntary. Weaver notes that work by Uggen and Kruttschnitt (YEAR) outlines distinct and implicit components of desistance, including the transition from offending to non-offending and a permanent state of non-offending. In sum, the combined literature seems to posit that desistance is a voluntary change process that relies on individual-level explanations of permanent cessation, including individual and agentic explanations; social and structural factors; interactionism; ontogenetics;

individual reactions to and interactions with social circumstances, family, employment, and social ties; and conformity and routine activities.

Current Practices

To understand the impact of the present study on policy implementation, it is essential to examine current practices rooted in evidence-based research in the U.S. The Office of Juvenile Justice and Delinquency Prevention (2023) offers in-depth guides to existing programs and practices within the U.S. The National Institute of Justice (NIJ) (2021) explains skill-building interventions for delinquent behaviors of youth in the United States as one available program for crime solutions. According to the NIJ (2021), the practice involves skill-building interventions focused on behavioral approaches to developing skills for youth between the ages of 21 and 21 and is designed to improve self-control and the ability to participate in positive social engagement. This practice includes cognitive, academic, vocational, and social skill interventions, and can be delivered in a variety of settings, such as correctional, clinical or community settings. It has been found to reduce reoffending among participating juveniles (NIJ, 2021).

School-based conflict resolution education is also popular. It aims to encourage positive social behaviors while reducing school-based conflicts by teaching students how to understand conflict and positive options for responding to it (NIJ, 2015). In practice, the program targets disputes between youth in the K-12 environment and offers positive alternative responses to conflict, including constructive self-management, communication, social perspective-taking, cooperative interpersonal problem-solving,

and respect, which are taught through direct skill instruction, peer mediation programs, and embedded lesson plans (NIJ, 2015).

Since gang membership and general affiliations with deviant peers can often increase juvenile delinquency, the NIJ also focuses some of its crime solutions program on gang membership. According to the NIJ (2019), gang membership programs are designed to include awareness strategies to prevent or deter juveniles from joining gangs but are not specifically designed for youths already involved in gang membership. In effect, this type of program is designed to address risk factors associated with gang membership, improving the overall supervision of juveniles, providing services and support, building interpersonal skills like conflict resolution, encouraging positive and healthy relationship building, offering space spaces for juveniles, and boosting academic engagement (NIJ, 2019).

Another popular school-based program concerns addressing interventions linked to aggression through prevention efforts targeted towards youth who are at risk for aggressive or violent behaviors (NIJ, 2019). As part of this type of programming, social information processing is used to improve how youth interpret and process social situations to negate aggressive behavioral responses from a cognitive standpoint (NIJ, 2019). To do this, the program utilizes training throughout the processing steps, including encoding situational and internal cues, interpreting cues, choosing or clarification of a goal, producing responses to meet that goal, selecting a response, and executing the behavior as a way to change the cognitive processes that are misinterpreted and lead to aggression (NIJ, 2019).

Each of these programs, as well as other programming from the National Institute of Justice Crime Solutions not specifically mentioned, have been found to successfully adjust behaviors of some of the targeted youth and have been shown to reduce recidivism at varying rates (NIJ, 2015, 2019). Similarly, each of these programs focuses on specific behaviors that have been cited throughout the literature as risk factors for crime and deviance among youth. Thus, the programming is developed to target root cause behaviors of delinquency. Even though there is a limited connection between street-level delinquency and online delinquency, the majority of the programming seeks to address immediate, or street-level, conflict, rather than conflict or victimization that occurs online. Thus, the present study seeks to advance existing programming that seeks to target juvenile delinquency in a constructive and evidence-based environment, to account for study results focused specifically on online deviancy among the same juvenile populations.

CHAPTER THREE

REVIEW OF THE LITERATURE

Introduction

This chapter presents the bodies of literature that are relevant to the study. The chapter emphasizes several major themes emerging from available scholarship in the field, including sections on criminological theory used to explain juvenile delinquency behaviors, criminological theory used to explain the cessation of juvenile delinquency behaviors, and factors found to affect cyber deviance among juvenile subjects. In particular, the chapter provides contextual details on the application of criminological theory in behavioral explanations, including cyber deviance, and behavior cessation and desistance. Further, the chapter explores policy frameworks and the relationship between criminological theory and the implementation of policy solutions.

Criminological Theory in Behavioral Explanations

There are several prominent criminological theories concerning juvenile deviance in general; some of those can be successfully applied to cyber deviance among juveniles. Although multiple theories are explained as a reference to necessary background knowledge or alternative factors leading to deviant activities, only Social Bond Theory

and Self-Control Theory (Gottfredson & Hirschi, 1990), and Social Learning Theory (Akers; Holt et al. (2012) are directly applied in the study to explain behaviors leading to deviance. Theoretical explanations of factors leading to disengagement in deviant activities are also considered in the study.

Heider's (1958) attribution theory examines how we use information to arrive at causal explanations for circumstances and events in a social context. Heider explains two main ideas at the root of attributional theory: dispositional explanations, which apply when there is an internal cause, and situational explanations, when there is an external cause. In such dispositional attribution, the individual assigns behavioral causes of behaviors to an internal characteristic, like personality traits, motives, or belief systems (Heider, 1958). In situational attribution, the individual assigns behavioral causes of behaviors to external factors that are outside of their control, such as environmental or situational features (Heider, 1958).

According to Jones and Davis (1965), dispositional attributions provide information that we can use to make predictions about future behaviors, and so created the correspondent inference theory to describe circumstances when we apply dispositional attributes to behavior that we believe is intentional. From this, Jones and Davis (1965) posit that we collect our information from different sources, including choice, where if the behavior is freely chosen then it must be as a result of internal factors; intentional behavior, which is likely to be attributed to personality; accidental behavior, which tends to be attributed to external factors; social desirability, where behaviors that are non-conforming or low in desirability lead individuals to attribute such

behaviors to internal factors; hedonism, where the behaviors appear to be intended to cause benefit or harm; and personalism, where the behaviors appear to have intentions of impact on another, are assumed to be personal, or are thought to be caused by internal characteristics.

Kelley's (1967) covariation model further expands on attribution theory to add modeling that judges when behaviors should be attributed to dispositional or situational characteristics. Within this model, there are three types of evidence individuals look for to better determine if behaviors are based on internal or external characteristics, including consensus, meaning the extent to which others behave in similar ways in similar situations; distinctiveness, for example if an individual engages in a certain behavior only when socializing with friends, or if they always show such behaviors regardless of situation; and consistency, which tells us whether the individual behaves this way every time this situation occurs, or only on some occasions (Kelley, 1967).

Sykes and Matza (1957) present a theory of delinquency that concerns techniques of neutralization based on drift theory, which essentially explains that the delinquent is an individual who otherwise adheres to the morals of society while justifying deviant behaviors and thus neutralizing them via techniques such as shifting blame to others, insisting no harm was caused, believing the outcome was deserved, or arguing that others have worse outcomes. Sykes and Matza (1957) believed that delinquent behaviors are learned, that they are not internal but rather, as with most other social behaviors, that delinquency is learned through social interactions. The authors further believed that delinquency is based on an unrecognized extension of the defense of behaviors,

particularly justifications that the individual exhibiting those behaviors believes are valid, but that society and the legal system do not see as valid. Sykes and Matza (1957) explain that such rationalizations following deviancy tend to protect the individual from self-blame, but that the same rationalizations *preceding* delinquency aid in making the deviant behaviors possible. Such rationalizations are problematic, as they often counteract traditional social controls that might prevent the behavior. They also allow for guilt and effective consequences, including denial of responsibility, which serves to counter feelings of disapproval by shifting blame, or asserting that the behaviors are outside the individual's control, thus viewing oneself as acted upon than acting. Thus, "the delinquent prepares the way for deviance from the dominant normative system without the necessity of a frontal assault on the norms themselves" (Sykes and Matza, 1957, p. 667).

The denial of injury, whereby the individual distinguishes between right and wrong depending on whether someone has been injured by the behavior, and as such, the individual's neutralization of social controls by qualifying behaviors is problematic. The denial of the victim does not allow the individual to accept responsibility for the behavior and except that a victim was harmed. There may also be neutralization whereby instead of injury, the outcome was retaliation, retribution, or punishment.

Sykes and Matza (1957) further argue that denying the victim and believing them to be deserving of a negative outcome is a form of recognition of appropriate and inappropriate targets for delinquency, which can be applied to forms of cyber deviance where there may not be a clear idea of who the victim might be. Further, the authors

consider the condemnation of the condemners as another technique of neutralization, where the individual shifts focus from their own deviant behaviors to the motives of those who disapprove of such behaviors, thus addressing the reactions of others in a way that allows their own deviant behaviors to be lost in the weeds (Sykes and Matza 1957). Appealing to higher loyalties is another technique that allows social controls to be neutralized by appealing to smaller social groups rather than the demands of society in general. In sum, Sykes and Matza (1957) posit that these various techniques of neutralization lessen the effectiveness of social controls that aid in the control of delinquent behavior.

Gottfredson and Hirschi (1990) developed the general theory of crime and focus on self-control, which maintains that since most crimes are simple or easy to commit with no real planning, those who commit crimes are prone to risk-taking, adventure seeking, and impulsive behaviors, and are insensitive to others. The authors argue that such characteristics lead to low self-control, and that such a lack of self-control is not just the cause of crime but of other problematic behaviors leading to issues in relationships and substance abuse. Further, Gottfredson and Hirschi (1990) posit that the primary cause of low self-control is parenting, and that parents must not only monitor their children's behavior but also recognize negative behaviors and correct them. To summarize, Gottfredson and Hirschi (1990) explain that when an individual has low self-control and the opportunity to commit crime, they are more likely to commit crime. However, without opportunity, the individual is less likely to commit crime since they would have to plan or seek out criminal activity, which is not a characteristic of people with low self-

control; such behaviors may be better explained by other theories of control. Gottfredson and Hirschi (1990) also distinguish between criminality, which is a tendency toward criminality, and crime, which is the act of law breaking, noting that only the tendency toward criminality is associated with low self-control.

Prior to this, Hirschi (1969) developed social bond, or social control theory, which suggests that adolescents who are delinquent in their behaviors are so because they fail to develop societal bonds. Hirschi (1969) notes that such societal bonds must include sufficient attachment to parents, peers, and school; commitment to occupation and education; academic involvement; and belief in social rules and social conventions. Hirschi (1969) also posits that humans have a natural tendency toward delinquent behaviors and that to stifle such natural instincts, only social bonds (social control) lead to conformity with social norms. As part of this theory, Hirschi (1969) distinguishes among four different forms of social bonds that influence social control: attachment, or the strength of the bonds that exist within an individual's environment, including parents, school, and peers; commitment, or the level of dedication and personal investment an individual has to set goals; involvement, which emphasizes the intensity of involvement in activities including school, work, or other activities; and belief, or how strongly an individual values the social norms that exist in their environment and the extent to which those values have been internalized.

Akers (1991) further expands on self-control as a general theory of crime, explaining that those with low self-control, while not necessarily criminal, will exhibit analogous behaviors at a much higher rate than those who have high self-control and as a

result, many kinds of crimes might result from such exhibitions of low self-control. Akers (1991), following Gottfredson and Hirschi (1990), agrees that the cause of low self-control is ineffective or incomplete socialization during child-rearing, and that children with strong parental attachments who are well supervised and punished for deviant acts are more likely to exhibit high self-control. Akers (1991) challenges Gottfredson and Hirschi (1990) to some extent, in that self-control is not defined specifically by the likelihood to commit crimes and thus has somewhat of a tautological nature, especially regarding the previous work's contention that low self-control is a trait shown in all criminal behaviors. In sum, Akers (1991) posits that to overcome issues of tautological reasoning, we should think of self-control's impact on crime as an organizing construct of behaviors associated with low self-control, and not as an explanatory theory of criminality in general.

Becker (1976) explores rational choice theory's relevance to crime. In this context, he notes that individuals are in control of the decisions they make and that they do not make choices based on tradition, environmental influences, or unconscious biases. Rather, people use rational considerations to balance potential consequences of their actions with the potential benefits they might receive as a result. This approach, which is known as the economic theory of crime, emphasizes that a deviant or criminal activity is chosen only when the supposed benefits from doing that act exceed potential costs, such as legal sanctions, loss of reputation, or similar concerns (Becker, 1976). While rational choice theory has its place in the literature and is applicable to causes of juvenile and adult criminal behaviors alike, some scholars question the ability of youths to engage in

rational choice. Fagan and Piquero (2007) note that developmental limitations in adolescents affect their capacity to make decisions based on rationality, diminishing their capacity to fully appreciate the consequences of their actions. Specifically, Fagan and Piquero (2007) explain that the internalization of social and legal norms, which regulate behaviors defined as legal or illegal and socially acceptable or deviant, as well as the development of rationality during adolescence, are key issues affecting the relevance of rational choice theory to juvenile deviancy. In their study, Fagan and Piquero (2007) find that developmental maturity, rather than chronological age, is essential to adolescents fully appreciating and understanding the effects of costs and benefits related to criminal or delinquent behaviors.

The origins of Social Learning Theory are traced to Bandura, who is known as the 'father of social learning theory', which suggested that learning through observation and then modeling creates primary factors in how and why people learn (Bandura, 1977). Bandura (1977) developed the idea that most behaviors are learned through observation, whereby watching others forms an idea of how individuals exhibit new behaviors, which, when modeled later, forms a guide for future behavioral actions.

Akers and Jennings (2015) rely on Social Learning Theory in positing that criminal or deviant behavior is learned through operant conditioning. This is where the positive consequences of behavior outweigh the positive consequences of adhering to societal norms, and that modeling of these behaviors is maintained through continuous exhibition of the behaviors leading to criminality. Akers and Jennings (2015) follow in the tradition of Bandura (1969), a pioneering scholar of Social Learning Theory who

argued that when a person is rewarded for a behavior, an observer is more likely to copy or mimic those behaviors to also seek reward, but when the action is punished, the observer learns to expect punitive consequences rather than reward should they adopt the same behaviors. Bandura (1969) explains that in order for the observer to model such behaviors, there are four key elements that must be present in order for learning to happen: attention, which establishes the role of the environment in which the behavior is learned; retention, which implies cognition where the observer recalls the behavior; motor reproduction, where the observer engages in the modeled behavior; and motivation, which explains the effort the observer puts into the behavior.

Finally, Merton's (1968) strain theory posits that society in general puts pressure, or strain, on individuals to meet socially accepted goals, even when they may lack the means to succeed in achieving those goals. The idea is that social inequalities build on individual experiences of tension, pressure, or strain that arise in reaction to the goals society dictates for one to be successful.

Likewise, people who face social inequality often lack the means to be able to meet those goals, which can lead to criminality as a means of illegitimately achieving society's goals (Merton, 1968). Merton (1968) identified five responses that individuals may have to this type of strain: conformity, where the individual has enough faith in society that goals are achievable that they follow legitimate means to achieve them; innovation, where the individual shares the societal goals but achieves them through illegitimate means; ritualism, who have no hope of achieving societal goals but maintain their legitimacy nonetheless; retreatism, who reject both societal goals and legitimate

means of achieving them, preferring to live outside social norms entirely; and rebellion, where individuals aim to modify existing societal goals in ways that are can be terroristic or violent.

Agnew (1985) argues that rather than being a result of strain around socially prescribed goals and norms, criminality and delinquency are most likely to occur when individuals experience negative life events, and that the inability to avoid negative environments leads to delinquency. According to Agnew (1985), there are three types of strain: strain from losing something of value to the individual; strain from being treated negatively or by way of abuse; and strain from being unable to achieve goals. Further, Agnew (1985) notes that objective strain results from events that most people would dislike, while subjective strain arises from events that the individual dislikes. Agnew (2001) expands on general strain theory to explain that deviance is most likely to result when objective strains result in subjective strain for the individual, including blocked goals, the loss of positive stimuli, or the introduction of negative stimuli. Moreover, individuals cope with strain in ways that mitigate the impact of strain. Agnew (2001) further explains that while some individuals will take conventional actions to cope, such as listening to music, others will engage in delinquent or criminal activities like drug use. Agnew (2001) argues that criminal or deviant reactions to strain are most likely to occur when the cause of the strain is seen as unjust, large in magnitude, linked to low self-control, and when it creates an incentive to engage in behaviors linked to criminality or deviancy as a coping mechanism.

Cohen and Felson (1979) develop routine activities theory, which explains that for crime to occur there must be a potential offender, a suitable target, and the absence of a capable guardian, and contends that all three elements must come together for criminal activity to occur. As with most theoretical explanations of criminal or deviant behavior, routine activities theory also assumes the rational actor model as the basis of behaviors. At the time of their study, Cohen and Felson (1979) found that a significant increase in reported crime rates in the U.S. was linked to societal factors leading to an increase in access to potential targets of criminal or deviant behaviors and a decrease in suitable, and available, guardians. As further explanation for these findings, Cohen and Felson (1979) examined trends in activities of the general U.S. population, finding more women entering the labor force, increases in travel or vacation, and other social factors that might decrease the likelihood of a suitable guardian being present to potentially prevent deviance or criminality from taking place. In short, increased opportunities to engage in criminal or deviant behaviors, increased absence of suitable guardianship, and increased opportunities to engage with a target of deviancy or criminality result from changes in general societal activities and are thought to cause social control mechanisms to fail, leading to increased crime and deviance (Cohen and Felson, 1979).

Criminological Theory in Cyber-Deviance

Ramirez-Thompson (2020) explains how key themes in crime causation theory may be applied to online deviancy and cybercrime. Ramirez-Thompson (2020) notes that Becker's (1976) rational choice theory, when applied to cyber deviant behaviors,

suggests that individuals engage in such behaviors because, when completing their moral calculus, they see the behaviors as low-risk and high profit, and that the risks of being caught and punished are outweighed by the benefits of engaging in those behaviors. Bandura's (1969) and Akers' (2015) Social Learning Theory, when applied to cyber deviancy, suggests that individuals learn to engage in these behaviors by observing others or through media portrayals of cyber deviants as successful people to be celebrated. Merton's (1968) strain theory, when applied to cyber deviancy, suggests that when individuals experience pressure in their private or social lives, online deviance allows them to alleviate such stresses and pressures to gain a sense of control over their experiences. Gottfredson and Hirschi's (1990) Self-Control Theory, when applied to cyber deviancy, suggests that low self-control makes individuals more likely to act impulsively and fail to consider the consequences of their behaviors on others.

Morrisett (1996) developed the theory of the digital divide, which refers to discrepancies in access to technology among socioeconomic groups. These groups include individuals who may have access to technology but lack access to skills training or other opportunities to learn; individuals who have limited or no access to technology; and individuals who lack the skills needed to be receptive to new information related to technology (as cited in Ragnedda and Muschert, 2013).

Debb et al. (2020) believe that how an individual conceptualizes their accountability related to misuse of digital technology is key in understanding changes in digital divide theory in a modern-day online environment. Debb et al. (2020) examine perceived attitudes towards online behaviors between Generation Y and Generation Z in

the U.S., finding that members of the older generation are more likely to review online usage policies, maintain cyber security, and act on security alerts. Thus, the authors conclude that more experienced computer users are less likely to believe they are invulnerable to victimization online, and that increased individual knowledge of online security in general are essential to consider in studying these security-based behaviors.

Criminological Theory in Behavior Cessation and Desistance

The scholarship discussed above focuses on theories seeking to explain behaviors associated with juvenile deviancy, whether at the street level or online. In the section that follows, theory concerning disengagement from those activities is discussed.

The combined works of Beccaria (1764), Bentham (1781), and other philosophers led to what we know as the theory of deterrence, which can be specific or general in nature. Specific deterrence assumes that the individual being punished will be deterred from further criminal activities because they will have learned from their punishment, while general deterrence posits that non-offenders will be deterred from criminal activities when they see others being punished (Abramovaite et al., 2022). Abramovaite et al. (2022) reaffirm previous work on deterrence theory contending that for deterrence to be effective, the elements of severity, certainty and celerity must be present, meaning the punishment should be severe enough to deter, but not so severe as to detract from the crime itself. Further, it must be guaranteed that punishment will follow criminal activity, and that punishment must be swift enough to be associated with that activity. Cheng et al. (2014) take the idea of general deterrence and apply it to neutralization techniques in

online deviance, specifically noting the perceived severity of available sanctions and the perceived certainty of being caught or detected in activities associated with online deviancy. While Cheng et al. (2014) focus specifically on the use of company internet for personal use, their conclusions may be applicable to other forms of cyber deviance. The authors find that individuals think more about perceived benefits and neutralization than they do about the costs of cyber deviance and tend not to anticipate being caught or punished for such activities.

Sykes and Matza (1957) focus on neutralization theory, which seeks to encourage delinquents to preserve their self-image by conforming to social norms and avoiding deviant activities. Sykes and Matza (1957) note that when delinquents think about engaging in criminal activities, they utilize justifications that seek to neutralize the guilt they might feel for committing a crime. This theory has been explored above. However, it is also important for understanding potential motivations for expanding on cognitive programs that seek to counteract the way deviants justify negative behaviors in ways that allow them to disengage from the behaviors rather than justifying and continuing with them. This theory is especially relevant to online deviance among juveniles, especially where denial of the existence of victims is often a reason for engaging in some types of online deviancy, such as illegally downloading media.

Deci and Ryan's (2008) work on motivation for deviancy explains that intrinsic and extrinsic factors are essential to understanding not just why such behaviors exist, but for creating policy or programming to assist in disengagement from such behaviors. In their work, Deci and Ryan (2008) explain that extrinsic motivation gives people reasons

to behave in certain ways based on external factors, such as awards, evaluations, or the respect of others. Intrinsic motivation, on the other hand, comes from the self, motivating the individual to behave in ways that express core values, interests, and morals. While internal and external factors might seem opposing, Deci and Ryan (2008) explain that motivation sometimes comes from both factors; autonomous motivation, while internal, may also come from external sources where individuals identify with the value of an activity; controlled motivation, while external, may also come from internal motivations based in values like seeking approval or protecting the ego.

Theories of desistance concerning permanent disengagement from criminal or deviant behaviors in which individuals have previously been engaged are typically associated with a decline in deviant behaviors from adolescence to adulthood (Denvers, 2011). LeBlanc and Frechette (1989) define four components of this type of criminal desistance, including de-escalation, where offenders gradually commit less serious offenses; deceleration, where offenders gradually commit offenses less frequently; reaching a ceiling, where offenders either gradually commit more crimes and then fewer, or continue to commit the same amount; and specialization, where, as offenders become specialized in a particular type of crime, they do it less often to increase the overall benefit of the activity. As we know from the literature explored above, there are many theoretical frameworks that seek to apply desistance theory to rationalize juvenile deviance, whether from simply growing out of the behaviors throughout the life course or developing positive social bonds that allow for informal controls on behavior. The theory of desistance can be applied and associated techniques can be applied to programming to

aid in disengagement from deviant behaviors. Like other social learning theories, the theory of behavior cessation is key in understanding factors that motivate individuals to disengage from deviant activities and behaviors (Denvers, 2011). Denvers (2011) explains that age, which affects engagement in and frequency of deviant behaviors; marriage, which offers support, new social networks, and structured routines; stable employment, which reinforces conformity to social normative behaviors; and gender all play significant roles in the likelihood of disengagement from criminal or deviant behaviors.

Policy Frameworks

There are several key frameworks that shape the literature on public policy. We know from history (as discussed above) that policy has involved various social controls, punitive measures, and correctional rehabilitative efforts to address juvenile deviance during several eras of juvenile correctional justice. What we know from the application of public policy frameworks to any social problem is that an enormous amount of effort and moving parts need to align to change or adapt existing policy. Sabatier's (1986) Advocacy Coalition Framework (ACF) is designed to understand policy change and how interactions among significant policy actors from public and private organizations can be examined to aid in successful policy change and implementation. Within this framework, Sabatier (1986) develops three tiers of beliefs that act as motivations for or drivers of policy change: deep core beliefs, which come from internally held ideals that define who we are; policy core beliefs, which include fundamental values and common

understandings of policy issues, causes, and solutions; and secondary beliefs, including the importance and seriousness of addressing the policy goal by pulling from these belief systems. Sabatier (1986) understands that policy actors who share common beliefs or ideologies form coalitions to allow them to solve common issues together. The ACF will be used to address recommendations for policy change at the conclusion of this dissertation in a way that identifies coalitions whose ideologies align with the outcomes of the study to support juvenile disengagement from online deviance.

When we think of policy considerations for cyber-governance, it is important not only to understand policy frameworks that may be applied to the phenomenon, but also to understand applied research in the area. Rosenzweig (2014) notes that, with the significant increase in online victimization and ineffective government efforts to combat it, more individuals and companies are choosing to depend on the private sector to defend their own cyber-security systems. The main issue with governance of online activity concerns legalities in the international environment where cyberspace exists. The globalized nature of the internet means that international laws regulating online behaviors and domestic laws of various nations and existing conventions need to be considered before government intervention against deviant and criminal online behaviors that originate overseas, transiting foreign servers, can be effective (Rosenzweig, 2014). Rosenzweig (2014) asserts that where international law exists, private-sector actors are less likely to involve themselves in protecting interests outside of government action, and that any type of action taken by private companies in defending their assets is likely to violate domestic laws of the originating country.

Shackelford and Craig (2014) note that, since the question of how the internet should be governed has gained momentum, two coalitions have emerged: 'cyber paternalists', who advocate for increased sovereignty over national cyberspace; and 'internet freedom', whose members believe that the private sector should be able to regulate its own interests in cyberspace away from potentially restrictive governmental policies. Shackelford and Craig (2014) argue that the digital divide has thus expanded to include these two opposing coalitions, whose conflicting ideas about how cyberspace should be governed and regulated entrench the divide. Further, while international issues are concerning, domestic or internal cybersecurity issues are also increasing as national governments work to secure their interests, such as critical infrastructure, content control, and the protection of citizen interests in terms of privacy and deterrence of criminal behaviors online. This is especially so where increased threats to critical infrastructure from other nations affect significant interests of safety and public protection (Shackelford and Craig, 2014).

Shackelford and Craig (2014) various aspects of the governance of global information and communication technologies, including the internet, from the 1970s to the early 21st century, including agencies, specializations, and areas of governance that have existed since information sharing has become a global phenomenon of online networks. They conclude that obtaining global agreement about regulation practices and policies has always been, and continues to be, the biggest stumbling block in securing cyberspace from a place of national or international governance, as some countries regulate their own online environments independently while others opt into international

institutions. Shackelford and Craig (2014) posit that there is a rationale for the regulation of cyberspace to protect critical infrastructure, including the idea that cyberspace is a pseudo commons that must have national control; that national regulations should expand to cyberspace under existing legal rule-making authorities; and that nationalization, as a solution to the tragedy of the commons, should be considered as a solution to the pseudo commons environment of cyberspace and emerging controls.

In terms of available internationally applied legislation, the Budapest Convention on Cybercrime (2001) is the only international instrument of government action that primarily concerns cyber issues and specifically notes that, while behaviors may not be punishable, they may be justified in cases of consent, self-defense, necessity or "where other principles or interests lead to the exclusion of criminal liability" (2001).

Conclusion

In sum, while the literature on juvenile deviance is vast with theoretical explanations for behaviors, there is still little scholarship on the application of cyber deviant behaviors to previous theoretical explanations. While social bonding, low self-control, (Gottfredson and Hirschi, 1990) and social learning theories (Akers; Holt et al., 2012) can be applied to online and offline deviant behaviors in a way that helps to explain potential causes for online deviance among juveniles, there is still the question of efficient and effective policy or programmatic needs to help stem the issue. As can be seen from literature on the perceptions of cyber deviance among juveniles, as low risk, high profit (Ramirez-Thompson, 2020), and generational differences (Debb et al., 2020),

there is a need to address juvenile perception in the application of solution-based policy or programmatic intervention.

CHAPTER FOUR

METHODOLOGY & PROCEDURES

Introduction

In this chapter, a detailed and in-depth presentation of methodology and procedures will be introduced and explored as it pertains to the nature of the study. The research design and hypotheses will be presented as they relate to the understanding of specific research questions set forth in the initial chapter. Further, population and sampling techniques will be explained, along with survey instrumentation design and. Finally, data collection and data analysis techniques will be explained as they relate to the research design and research questions. The chapter introduces the research methodology for this quasi-mixed-methods study, which seeks to evaluate correlations between family and peer attachments, attitudes towards specific types of cyber deviance, and engagement with or victimization from cyber deviance activities.

The results of this study will be relevant to policy implementation at the K-12 education level by allowing a broader understanding of why juveniles decrease online deviant behaviors. Such an understanding will allow policymakers to better prepare programming that supports the development of behaviors seeking to navigate potential online deviants away from those behaviors.

Research Design

As briefly mentioned above, this is a quasi-mixed-method study, utilizing a survey instrument that contains both quantitative and qualitative questions. The survey instrument will be discussed in depth in the instrumentation section of this chapter. The study takes a grounded theory approach to develop a better understanding of online juvenile deviancy, causes for such behaviors, and reasons for increasing or decreasing these behaviors, to better understand not just the motivating factors for engaging in online deviancy, but also motivating factors that lead to an increase or decrease in these behaviors. Further, the grounded theory approach of this study seeks to uncover potential social factors, including group behavior among juveniles and social processes that may exist as a primary factor in loss of self-control in an online environment. The quasi-mixed-method nature of this study utilizes an embedded design, whereby quantitative and qualitative data are collected simultaneously within the same survey instrument. Thus, the research design places a primary focus on quantitative data to find correlations between data points, but also relies on qualitative data to help explain why attitudes and behaviors exist, and why those behaviors may increase or decrease among participants.

Creswell and Plano Clark (2018) posit that mixed methods research is useful when a pragmatic, pluralist approach seeks to find objective and subjective knowledge to answer research questions. They further note that to fully understand whether a research design has aided in finding answers to research questions, a mixed method approach is appropriate, since, by design, it incorporates both the objective nature of quantitative

research and the subjective nature of qualitative research in one complex study (Creswell & Plano Clark, 2018). In this study, the purpose of the mixed methods approach is to develop both breadth and depth of knowledge to understand the relationship between juvenile behaviors in online deviancy and attitudes towards specific types of online deviancy, while also developing links between those results and existing criminological theory seeking to explain those behaviors.

Further, grounded theory offers an inductive, qualitative approach to advance theory based on the analysis of subjective data, specifically where existing theories are perhaps incomplete or contradictory, as is the case regarding behavioral causes for online deviancy in juveniles (Glaser & Strauss, 1967). The study seeks to develop a thorough understanding of the phenomenon as an effective way to advance educational policy to combat the phenomenon among juveniles. To do so, incorporating a quasi-mixed methods design allows us to better understand the objective and subjective data on attitudes towards, and instances of, online deviance in juveniles.

As part of the research analysis, matrices are created for each theoretical factor, including ‘Attachment’, ‘Social Learning’, and ‘Social Control’. Within the survey design, sections were divided into standardized questions to assess the strength of theoretical factors from responses provided on Likert scales from 1-5. The matrices were created by taking each section individually, for example, questions assessing strength of self-control from low to high, and scores were given for each individual respondent for that section. For example, in the social learning section of the survey, twenty-four questions were asked to gauge respondent strength of social learning, since this was on a

scale of 1-5, the total score possible in this section would have been one-hundred-twenty-five. The higher the score would mean that the respondent had higher self-control, and the lower the score, the lower the self-control of the respondent. The same was done for attachment and social learning responses.

Research Questions

This study seeks to build theory in response to the following research questions:

RQ1: Is there a correlation between online and offline engagement in deviant behaviors?

RQ2: Do socio-economic factors and general attitudes towards types of online deviancy have an impact on the frequency of engagement in online deviance?

RQ3: Based on research questions 1 and 2, is there a higher correlation between peer and family attachments and attitudes towards types of online deviance, or a higher correlation between socio-economic factors and attitudes towards online deviance?

RQ4: What motivates juveniles to increase or decrease their engagement in online deviancy?

Hypotheses

In the creation of empirical analyses based on the above research questions, this study seeks to align theoretical explanations of deviance to engagement in deviancy by empirically evaluating the following hypotheses:

H1: Does low self-control impact engagement in deviant behaviors, both online and offline?

H2: Do peer, family, and/or school attachments have an impact on engagement in deviant behaviors?

H3: Does social learning have an impact on engagement in online deviancy?

To address these research questions, hypotheses based on theoretical explanations for juvenile delinquency will be utilized to provide empirical evidence to support or not support the research questions being proposed. Research question one asks if there is a correlation between online and offline engagement in deviant behaviors seeks to offer an observation as to whether online and offline deviance is connected. Hypothesis testing will include elements of criminological theory, including Self-Control Theory (Gottfredson and Hirschi, 1990); Social Learning Theory (Akers and Jennings, 2015); and Attachment Theory (Ainsworth and Bowlby, 1991) to align theoretical explanations

to empirical instances of engagement in deviance, and whether there is a particular theory that yields stronger correlations to engagement in deviance than another.

Research question two, which asks whether socio-economic factors and general attitudes towards types of online deviancy an impact on engagement in such behaviors have, allows for hypothesis testing to include elements of criminological theory. Thus, creating a better understanding of whether a particular theory accounts for stronger relationships between socio-economic factors and engagement in deviant behavior.

Research question three seeks to understand correlation between peer and family attachment and engagement in online deviance allows for hypothesis testing to include Attachment Theory in the same way as the previous research questions. Specifically, this research question seeks to apply peer, school, and family attachment criteria to identify whether any one type of attachment holds stronger correlation over engagement in deviance than another.

The final research question focuses on the motivation behind engagement in online deviancy, which will be addressed using open-ended response questions in a qualitative approach to provide context to other hypothesis testing discussed above.

Study Participants

The sample was drawn from a population of incoming undergraduate students at a public university in the south-eastern United States. The target population was undergraduate students who had graduated from high school within the last six months to a year, had been accepted to a public university, and who therefore were still in a stage of

their life course that could be considered juvenile for the purposes of the study. The researcher utilized convenience sampling, which is a non-probability sampling method based on ease of access, willingness to participate in the study, and geographical proximity to the researcher (Etikan et al., 2015).

Population Limitations

There are two main limitations concerning the sample selection methodology. Convenience sampling tends to present more bias compared to probability sampling, since the researcher may ask those closest to them to participate (Galloway, 2005). In this study, bias associated with convenience sampling was reduced by recruiting participants without direct interaction between the researcher and potential participants. The researcher produced flyers with links to the survey, which were emailed directly to the population, and included gift-card incentives for respondents who wished to elect into a raffle upon completion of the survey. The survey instrument was anonymous in nature.

The second limitation concerning study participants concerns the ages of the survey respondents. Since the research focuses on juveniles, it would be beneficial to sample from high school age participants. However, due to ethical and access considerations, convenience sampling was utilized among individuals who had recently graduated from high school. The main limitation of this approach is that individuals who may not have graduated from the K-12 educational level were not sampled, so conclusions may only be reached concerning the behaviors of juveniles who continued their education to the college level, and not those who either did not complete high school

or continue to college. In future research, the researcher plans to replicate this study to eliminate potential bias with a population sample from local middle school and high school participants. In such a longitudinal study that would allow follow-up studies to be completed, additional criteria could be included to ascertain subsequent engagement in deviance and acceptance to higher education or other path for a population sample that includes those who attended higher education and those who did not.

Instrumentation

The study participants were recruited utilizing posters, which can be found in Appendix B (A.2), asking for anonymous participation in an online survey. The flyers were distributed via email communication with the population. Participants were asked to complete a brief, anonymous questionnaire, which can be found in Appendix A (A.1), which included question blocks on demographics, general feelings towards cyber deviance, attitudes towards online behaviors, behavior ranking, online experience, and engagement ending behaviors.

In the first question block, which collects demographic information, participants were asked to designate their identifications based on population characteristics, such as age range, gender identification, ethnicity, education level, household income, employment status, living arrangements, political views, parental education levels, and marital status. Collecting demographic information about the population helps to ground the research in its applicability and understanding of the community, especially where the research applications might concern policy guidance geared toward a specific

demographic community and to aid in the discovery of correlations between community needs and resource gaps (Lee & Schuele, 2010).

In the second block, which concerns general feelings towards deviant behaviors online, participants were asked to reflect on behaviors and attitudes that related specifically to themselves, their family, school, or work. Participants were asked to rate their attitudes towards boredom, thrill-seeking, risk-seeking, and sensation-seeking behaviors. It is well established in the existing literature that sensation-seeking behaviors are correlated with Gottfredson and Hirschi's (1990) theory of general deviance. Newcomb and McGee (1991) note that indicators of behaviors related to sensation or thrill-seeking are correlated with behaviors linked to general deviance. Mann et al. (2016) discovered that sensation seeking behaviors are risk factors for delinquent behaviors, specifically among adolescents, and that these behaviors highlight the specific role of sensation seeking in later engagement with deviant behaviors. In the current study, the purpose of this block of questioning is to mimic previous research concerned with sensation seeking behaviors and the likelihood of deviant activities among juveniles. However, existing studies focus on street-level deviancy, with very little work exploring the connections between thrill seeking behaviors and online deviancy. Therefore, the study at hand seeks to explore such connections in an online environment.

Participants were also asked to rate their feelings towards being connected to their school, work, or community; their success as noted by average high school GPA; their feeling towards rules being positive; and their feelings of being connected to peers or peer activities. This block of questioning is particularly important in addressing

attachment theories as explanations of deviant behaviors among juveniles. Loeber and Southamer-Loeber (1986) suggest that familial relationships have a significant impact on juvenile engagement in deviant activities and behaviors, and that family disorganization, parental involvement in criminality, and lack of supervision all lead to an increase in juvenile delinquency. Sampson and Laub (1994) explain that inadequate parenting practices and parental supervision and family structure aspects like a broken home, household size, sibling rank, and family environment have significant, detrimental effects on deviant behaviors among youth living in those situations. They also note that erratic, threatening and harsh discipline, low supervision, and weak parent-child attachments mediate the effects of poverty on behaviors resulting in delinquency.

Udris (2016) further notes that family, school, and neighborhood all play significant roles in cyber deviance, and that having a bad relationship with one's mother or father has identical negative associations with downloading illegal or illicit materials. However, the effect of having a good relationship with one's mother was double that of having a good relationship with one's father when predicting hacking, suggesting that a good relationship with the mother plays a more influential role in mediating this type of cyber deviancy. Thus, this block of questioning is designed to analyze whether attachments to family, school, and community are key factors in the likelihood of juvenile deviance online.

Also, in this block of questions, participants were asked to state whether their peer group engaged in deviant behaviors, if they had positive family attachments, and if they spent more time with family or peer groups. Mann et al. (2016) also sought to understand

whether deviant peer groups were a risk factor in the prediction of delinquency in adolescence. They found that the socialization effect and affiliation with deviant peers were both highly correlated to higher levels of delinquency in adolescents. This supports the wider literature concerning deviant peer groups, which generally agrees that socializing with a deviant peer group supports an increased likelihood of an individual also engaging in deviant behaviors. Again, most relevant literature focuses on street-level deviance, so this block of questioning seeks to find a relationship between those same levels of peer group engagement and online deviancy.

In the third block, participants were asked to rate their attitudes towards specific online behaviors based on how acceptable they believed the behaviors to be. This section of the survey asks about the main types of online deviancy as defined in the literature, specifically in Yar's (2006) definitions of cybercrime and cyber-deviance from the US Department of Justice: trolling, cyberbullying, cyber-harassment, sexting, spamming, piracy, flaming (posting personal insults, vulgarity, or angry words), and unauthorized internet use. In addition, participants were asked to designate which negative online behaviors they believed should be criminalized. The purpose of this block of questions was to gauge whether participants expressed higher or lower levels of acceptance for different and specific types of online deviance, and whether participants would recommend criminal sanctioning of online deviant behaviors that were not currently under criminal sanctions in the U.S. As a continuation of this type of questioning, the fourth block asks participants to rank behaviors from most to least severe, which also seeks to understand attitudes to types of online deviancy based on acceptability.

In the fifth block, participants were asked to discuss their online experiences, including how often they had witnessed online deviance, whether they knew the individuals engaging in those behaviors, the frequency with which they have been victimized by those behaviors, which (if any) behaviors they have engaged in, and frequency of engagement in those behaviors. Participants were also asked to rank methods of social control over cyber deviance using a scale of most to least desired. Next, participants were asked a series of open-ended qualitative questions asking them to share their experiences with cyber deviance, the impact it has had on them, and what measures, if any, they believed should be taken to combat deviant behaviors online.

In the sixth block, participants were asked to discuss their offline experiences, including how often they had witnessed offline deviance, if they knew the individuals engaging in those behaviors, the frequency with which they have been victimized by those behaviors, which, if any, behaviors they have engaged in, along with frequency of engagement in those behaviors. This block is key in being able to compare attitudes and behavior engagement between online and offline deviancy types.

The final block of questions was reserved only for participants who had indicated that they had previously engaged in deviant behaviors online, and asked if, depending on the type of deviancy they had engaged in, their engagement increased or decreased over time. Participants were asked what they believed led individuals to engage in cyber deviancy, along with a series of open-ended questions about why participants increased or decreased their engagement in online deviancy. This block was designed to obtain subjective understanding of why juveniles might engage in deviant behaviors online, and

what causes them to decrease or increase those behaviors. The purpose of such questions is to allow the researcher to build policy suggestions for identifying and combating behaviors associated with online deviancy.

Data Collection

Again, this study used a single survey instrument, which can be found in Appendix A (A.1), in which participants were asked to answer a series of questions, separated in theoretical blocks as discussed above, concerning attitudes and experiences with online deviancy and victimization. Participants completed the survey online using the Qualtrics platform.

The survey included both quantitative and qualitative questions. The quantitative questions included rank questions, scale questions, and closed-ended questions in all blocks. The qualitative questions were found towards the end of the survey and focused on participants' subjective opinions about criminalization of behaviors related to online deviancy, their own experiences with online deviancy and victimization, and suggestions for overcoming such behaviors.

The purpose of incorporating open-ended questions was to obtain in-depth knowledge regarding motivations for engagement in online deviant behaviors, motivations for increasing or decreasing those behaviors, and general opinions about when such behaviors might require sanctioning. Participants were asked to complete the survey anonymously, though they also had the option to provide a contact email should they want to be contacted for further studies related to the results of this study.

Procedures

Approval from the Institutional Review Board (IRB) was sought from Clemson University. Once approval was given, the researcher was able to distribute posters, which can be found in Appendix B (A. 2), via email to incoming students, who made up the larger population.

The researcher noted ethical considerations based on the potential for psychological impacts on participants in sharing their experiences with engaging in behaviors that may not be accepted by society, may be illegal, and in sharing experiences of victimization at the beginning of the survey. In addition, participants were made aware that participation in the study was voluntary and that consent to participate could be withdrawn at any time by failing to complete the survey or by skipping a question within the survey that made the participant uncomfortable.

Further, participants were made aware at the beginning of the survey that responses were being collected anonymously, and that steps had been taken when designing and distributing the survey within the Qualtrics program to protect against anonymity being breached. As part of the research design, the researcher alleviated issues of bias related to the potential for leading questions by replicating survey questions from existing scholarship on criminological theories for behavioral explanations, as noted in detail in the section above.

Data analysis

Quantitative Data Analysis

As a result of the research design utilizing a mixed methods approach, the quantitative and qualitative elements were analyzed separately. The quantitative data were analyzed first. To complete regression analysis on the data, the data had to first be cleaned. Surveys were individually reviewed, and any that were significantly incomplete, or duplicates were removed from the sample. Surveys with relatively few skipped questions or missing data were included in the analysis. As previously explained, matrices were created from standardized questions within the survey, which related to theoretical factors, including attachment, social learning, and self-control. Each matrix was created using scores taken from survey responses and a total score was calculated for each measure. For example, where there were twenty-four possible questions related to self-control, on a Likert scale of 1-5, the maximum possible score was one-hundred-twenty-five. This calculation was computed for each theoretical measure, for every response. The information contained within each matrix are the independent variables for the study.

Within the survey, respondents were asked to indicate their engagement in deviant behaviors, both online and offline, in high school and in middle school. These scores were adapted on a binary scale, with 0 being no indication of deviance, and 1 being indication of deviance reported. This measure was used as the dependent variable to assess whether respondents had engaged in deviant behaviors, either online, offline, in middle school, or in high school.

Control variables consisted of demographic data taken from the survey, including gender identity, strength of political affiliation, and level of community involvement. Gender identity was computed on a scale from 1-3, with 1 being male, 2 being female, and 3 being used to represent an alternative gender given by open text within the survey. Strength of political affiliation was indicated on a scale of 1-5, from very liberal to very conservative. Level of community involvement was indicated on a scale of 1-3, including not involved, somewhat involved, and very involved.

Throughout the survey, each section represented a specific theory, or hypothesis, as noted in the methodology section of this paper. This section will explore statistical inferences made from analyzing the data in each of those key sections. In the overall data table created from survey responses, there were one-thousand-twenty-eight (1028) observations of one-hundred-forty (140) variables. This was shown after all qualitative, open-ended, questions were removed from the dataset to be analyzed separately.

Deviancy Indicator

To better assess the relationship between criminological theoretical explanations of engagement in deviance within the study parameters, a deviancy indicator was created for the dependent variable in all statistical analyses. The deviancy indicator is a dichotomous variable, where participants who identified as engaging in deviance online were given a score of 1, and participants who identified not having engaged in deviance were given a score of 0. The same was repeated for offline deviance for analysis involving comparisons between theoretical explanations of engagement in deviance and

offline deviant engagement. The deviancy indicator was used in all testing as the dependent variable.

Types of Deviance

Respondents were asked to select types of deviant behavior they had engaged in, both online and offline, in middle school and in high school. The table below shows instances of deviant type indicated by respondents, and instances that occurred in high school and middle school, both online and offline.

Table 4.1: Types of Deviance

Deviance Type	*Online or Offline*	*Middle School*	*High School*
Pirating, illegally streaming content, or copyright infringement	Online	50	63
Social Media Spamming	Online	12	21
Cyber-Bullying	Online	16	13
Cyber-Harassment	Online	5	8
Using the internet to cheat	Online	49	111
Sharing targeted or malicious posts	Online	11	16
Trolling	Online	61	90
Online Radicalization	Online	4	4

Sexting/ Sharing nude images	Online	5	64
Pretending to be someone else	Online	13	20
Flaming	Online	15	31
Cyber dating abuse	Online	3	7
Curfew Violation	Offline	44	216
Ungovernable behaviors	Offline	31	80
Running away	Offline	6	14
Truancy	Offline	3	21
Underage drinking	Offline	15	151
Use of illegal substances/ drug taking	Offline	4	66
Bullying	Offline	15	19
Trespassing	Offline	13	61
Theft	Offline	5	19
Vandalism	Offline	8	15
Loitering	Offline	4	21

Table 4.1 reports the number of instances of engagement in deviance reported in survey responses, separated by high school and middle school instances, and online and offline environments.

When completing ANOVA testing to compare middle school and high school values, statistical significance is shown, where the p-value is <0.05. Spearman's Correlation testing was also statistically significant, with a p-value of <0.05. From this, we can see that a relationship exists between the data, that it is correlated in some way, but further testing needs to be conducted to examine where the correlation exists. To do so, matrices were created for survey questions linked to theoretical perspectives, including attachment, self-control, and social learning. These matrices are the independent variables, which will undergo factor analysis with the dependent variable; the existence of deviance and are calculated by creating a score for each respondent per survey section corresponding to standardized questions to ascertain attachment, self-control, and social learning.

Qualitative Data Analysis

Since the study incorporated a quasi-mixed-methods approach, qualitative, open-ended, questions were excluded from the initial data analysis and analyzed separately using coding schemas. Codes were created at the analysis stage. During the analysis stage, key phrases and themes were taken from open-ended questions which asked participants to explain why they believed juveniles engaged in online deviance, and what caused them to increase, or decrease, their own engagement in those behaviors.

In the first cycle of coding, in vivo coding was used to protect the subjective nature of responses, which allowed the researcher to code based on specific words or phrases provided by participants. In vivo coding, which is rooted in grounded theory,

simply means that words that are noted by the study participants are used as codes (Manning, 2017).

In the second cycle of coding, thematic coding was used to group in vivo codes based on themes relating to negative and positive attitudes, specific experiences that might be shared, specific motivations for increasing or decreasing behaviors that might be shared and shared opinions on types of sanctions, if any, that participants believed would be suitable for mitigating such behaviors. All coding cycles were conducted manually. Thematic coding is used to find themes in the text by analyzing the meaning of words or by linking common usages of the same words, phrases, or contexts (Gibbs, 2019).

Data Integration

Once the quantitative and qualitative analyses were completed, the results were compared to see what qualitative themes might be reinforced by the quantitative analysis as they relate to the research questions. Each of the four main research questions, as listed above, was taken into consideration as comparisons were drawn between the quantitative data and qualitative explanations and themes that arose from analyses. Essentially, while the quantitative analysis seeks to provide statistical evidence of correlations between data points from the survey instrument, the qualitative analysis seeks to make sense of the quantitative data by utilizing themes that arise from open-ended questions on the same survey. Once this overlap was identified, comparisons were developed between the mixed method data to help better understand the breadth and depth of the phenomenon.

Modeling

For the statistical analysis of quantitative survey data, binary logistic regression was used to find the natural log of the odds for the data. In total, four binary logistic regression models were created, which allowed each dependent variable in the analysis to be regressed against the independent variables. The use of binary logistic regression allows for an analysis where the dependent variable is a dummy variable, which is why this was chosen for the basis of analytical modeling for this study. In this study, a logit model was created to account for potential errors in the use of binary logistic regression modeling.

The dependent variables in this study include deviance indicators at four different levels, and are dichotomously coded (0, 1). Where participants indicated they had engaged in deviance either online or offline, in middle school or in high school, a score of 1 was given, and where participants indicated they had not engaged in deviance at those levels, a score of 0 was given. Thus, the dependent variables consist of; online deviance indicator in high school, online deviance indicator in middle school, offline deviance indicator in high school, and, offline deviance indicator in middle school.

The equation for the logit model is as follows:

$$Z = \ln (p/1-p) = B0 + B1.X1 + B2.X2 + B3.X3 \ldots e.$$

Where, *ln* is the natural logarithm, *(p/1-p)* is the odds or logit, where *p* is the probability that *y* cases equal 0. This modeling technique was used for all independent variables, which represent theoretical assumptions from the literature, including Attachment Theory, Self-Control Theory, and Social Learning Theory. For each theoretical assumption, scores were coded from the mean average calculated from participant survey responses from each question block pertaining to theory.

CHAPTER FIVE

DATA AND SAMPLE

Introduction

This chapter allows for an in-depth understanding of the data collection process, the sample, and how the researcher will analyze the data. The chapter will also provide an overview of the data collected and how they have been transformed to allow for hypothesis testing.

Data Collection

Study participants were recruited utilizing posters, which can be found in the Appendix, asking for anonymous participation in an online survey. The flyers were distributed via email communication with the population. Participants were asked to complete a brief, anonymous questionnaire, which can be found in the Appendix, including question blocks on demographics, general feelings towards cyber deviance, attitudes towards online behaviors, behavior ranking, online experience, and engagement ending behaviors.

Participants completed the survey online using the Qualtrics platform. The survey included both quantitative and qualitative items. The quantitative items included rank

questions, scale questions, and closed-ended questions in all blocks. The qualitative items were found towards the end of the survey and focused on participants' subjective opinions about criminalization of behaviors related to online deviancy, their own experiences with online deviancy and victimization, and suggestions for overcoming such behaviors. The purpose of incorporating open-ended questions was to obtain in-depth knowledge regarding motivations for engagement in online deviant behaviors, motivations for increasing or decreasing those behaviors, and general opinions about when such behaviors might require sanctioning. Participants were asked to complete the survey anonymously, though they also had the option to provide a contact email should they want to be contacted for further studies related to the results of this study.

Modeling

Binary logistic regression was used to determine the effect of each independent variable on the dependent variable. In total, four binary logistic regression models were created. The use of binary logistic regression is appropriate when the dependent variable is a dummy variable. Logit models were created to account for potential errors in the use of binary logistic regression modeling.

The dependent variables in this study include deviance indicators at four different levels, and are dichotomously coded (0, 1). Where participants indicated they had engaged in deviance either online or offline, in middle school or in high school, a score of 1 was given, and where participants indicated they had not engaged in deviance at those levels, a score of 0 was given. The dependent variables include: (1) online deviance

indicator in high school, (2) online deviance indicator in middle school, (3) offline deviance indicator in high school, and (4) offline deviance indicator in middle school.

The equation for the logit model is as follows:

$$Z = ln\ (p/1\text{-}p) = B0 + B1.X1 + B2.X2 + B3.X3 \ldots e.$$

Where *ln* is the natural logarithm and *(p/1-p)* is the odds or logit, where *p* is the probability that *y* cases equals 0. This modeling technique was used for all four dependent variables. The models include independent variables that represent theoretical assumptions from the literature, including Attachment Theory, Self-Control Theory, and Social Learning Theory. For each theoretical assumption, scores were coded from the mean average calculated from participant survey responses from each question block pertaining to theory.

Sample Analysis

Population

To create matrices to compare standardized questions based in the literature to determine strength of attachment, self-control, and social learning, scores were taken from each section of the survey corresponding to those theoretical explanations. From this raw data, three matrices were created: the Attachment Matrix, the Self-Control Matrix, and the Social Learning Matrix. See the Appendix for coding details. Each matrix included raw data from the standardized theoretical sections of the survey (the

independent variables) and indications of engagement in deviance online (the dependent variable). Essentially, each dependent variable is asking whether engagement in deviance is present in the respondent's survey answers. Also included in each matrix are control variables, including gender identification, with 1 indicating male, 2 indicating female, and 3 indicating self-identification with a third gender; political affiliation, on a scale from very liberal (1) to very conservative (5); and community involvement, on a scale from not at all involved (1) to very involved (4).

Once the matrices were created, factor analysis was completed for each independent variable, and multivariate analysis was conducted on the combined matrices. The survey also included some open-ended questions pertaining to behavior ending reasoning, which will be discussed following the quantitative analysis.

Sample

The survey was sent out to all incoming undergraduate students at a large state university in the Southeastern United States. The survey generated 1,485 responses. The general population, information about which was provided by the Institutional Research office at the university, comprised 4,498 individuals. Thus, the response rate was 33%.

To evaluate whether the survey sample of respondents was statistically comparable to the population, statistical comparison was conducted on demographics available for the sample and the population. Population demographics, including race and gender, were taken from the incoming student report for the university where incoming students were surveyed.

One challenge in comparing gender in the population and the sample is that the survey asked a different set of questions from the university population criteria. The university criteria excluded non-binary options when assessing gender and had only three categories for students to choose: male, female, and other. The survey allowed for open-ended input where respondents identified as a gender other than binary, male, or female.

Additionally, the university population criteria did not include questions pertaining to parental household income, but it is assumed that respondents to the survey would be roughly comparable on this criterion given the cost of attending university.

Comparison by Gender

When analyzing gender, a chi-square test was used to compare the survey and the population in terms of gender, where 1 is male, 2 is female, and for the purposes of comparison given different options for non-binary identification, 3 was used to include those who selected ‘other’ in the university population criteria and those who noted non-binary or provided an open-ended response in the survey. Respondents who did not provide an answer, or who preferred not to provide their gender identification, are coded 0. Out of 1,485 survey respondents, only 557 chose to identify their gender. Table 3.1 shows a comparison between sample population and survey population by gender. By using a chi-square test, which compares observed results with expected results, it is possible to determine whether the observed results from the survey are in line with expected results per the general population data provided by Institutional Research at the university.

Table 5.1: Gender Comparison

	Survey Respondents	Survey Sample Percentage	General Population	General Population Percentage
Male	188	33.75%	1883	41.9%
Female	352	63.02%	2615	58.1%
Other/Non-binary	18	3.23%	0	0%

Table 5.1 represents the percentage differences between the survey sample compared with the general population with regard to gender identity.

The *p* value for Pearson's chi-square test for gender was 0.98 (>0.05), indicating no statistical significance between the survey respondent gender identification and the general population data. This would signify that the observed distribution among survey respondents is about the same as the expected distribution from the general population data, meaning that we may generalize the analysis of survey responses to the wider population in terms of gender.

Comparison by Race

When analyzing race, the survey allowed respondents to choose among White, Black, or African American, American Indian, and Alaska Native, Asian, Native Hawaiian and other Pacific Islander, or the option not to answer. Respondents were also told to select more than one category where applicable. In the Institutional Research

report, incoming students were asked to choose among slightly different categories, including White, Hispanic, or Latino, Black, or African American, two or more races, Asian, unknown, and American Indian or Alaskan Native or Native Hawaiian or Other Pacific Islander. To make the analysis more comparable, within the survey responses, those who chose two or more criteria were placed into a separate group to compare to the population data allowing for two or more races. Since the survey did not include Hispanic or Latino, this criterion will not be compared. Comparative criteria included White (1), Black or African American (2), American Indian or Alaska Native (3), Asian (4), Native Hawaiian and other Pacific Islander (5), no answer provided (6), and two or more races (7). Table 3.3 shows a comparison between sample population and general population by race.

Table 5.2: Race Comparison

	Survey Sample	Survey Sample Percentage	General Population	General Population Percentage
White	429	77.68%	3249	72.2%
Black or African American	36	8.05%	249	5.5%
American Indian or Alaska Native	2	1.68%	10	0.2%
Asian	29	7.05%	119	2.6%
Native Hawaiian and other Pacific Islander	1	0.67%	3	0.1%

Two or more races	35	0.66%	211	4.7%

Table 5.2 shows percentage differences between survey sample and general population pertaining to race.

When calculating Pearson's chi-squared test for race, the *p*-value was 0.99, or >0.05, indicating no statistical significance between the survey respondent race and the general population data. Thus, in terms of race, the observed distribution among survey respondents is not statistically different from the expected distribution from the general population data, meaning that we may be able to generalize observations from statistical analysis of key survey responses.

Dependent Variables

As part of the study, participants were asked to identify whether they had engaged in different types of deviance, either online or offline, in both middle school and high school. From this, 'Deviance Indicators' were created across four levels, including online deviance in high school (D1), online deviance in middle school (D2), offline deviance in high school (D3), and offline deviance in middle school (D4). These indicators were created using survey questions that asked whether participants had engaged in deviance, separating those responses across the four levels mentioned above, and giving a binary response where 1 indicated participants had identified being engaged in deviance at that level, and 0 indicated participants had not identified being engaged in deviance at that

level. The Deviance Indicators were used as dependent variables in the logistic regression models that follow in subsequent chapters.

Independent Variables

The survey was organized into question blocks that directly reflect criminological theory about why juveniles engage in deviance. To analyze responses to these questions, and thus test theoretical explanations for engagement in deviance, matrices were created to provide a score for each participant across all theory-based question blocks. The following section explains how these scores were created for each criminological theory.

Social Learning Theory

Social Learning Score

The Social Learning Score was created using responses to questions in the section of the survey pertaining to Social Learning Theory. This section of the survey asked two main questions: one related to high school experiences, and one related to middle school experiences. Within each main question were eight standardized sub-questions pertaining to Social Learning Theory and peer behaviors where participants were offered 1-4 response set, with 1 being least and 4 being most peer engagement in specific deviant behaviors. For each participant, a mean average score was calculated for each main question. Participants with lower scores showed low social learning, and participants with higher score showed high social learning. Further analysis was conducted that connected social learning with peer attachment, which will be discussed below.

Attachment

Parental Attachment Score

Survey respondents were asked to answer standardized survey questions that sought to gauge the strength of their parental attachment. These questions provided participants with a 1-4 response set, with 1 being least and 4 being most attached to parents. For each participant, a mean average score was calculated where low scores indicated low levels of parental attachment and high scores indicated high levels of parental attachment.

School Attachment Score

Respondents were also asked to answer standardized survey questions that sought to gauge the strength of their school attachment based on experiences with teachers. These questions provided participants with a 1-4 response set, with 1 being least and 4 being most attached to the school. For each participant, a mean average score was calculated where low scores indicated low levels of school attachment, and high scores indicated high levels of school attachment.

Peer Attachment Score

In addition, respondents were asked to answer standardized survey questions gauging the strength of their peer attachment. These questions gave participants a 1-4 response set, with 1 being least and 4 being most attached to their peers. For each

participant, a mean average score was calculated where low scores indicated low levels of peer attachment, and high scores indicated high levels of peer attachment.

Further testing was completed to combine peer attachment and social learning responses in a matrix that allowed for testing across all four levels of social learning (Akers, 1998). This process will be discussed below.

Self-Control Theory

Self-Control Score

Study participants were asked to answer standardized survey questions measuring the strength of their self-control. These questions gave participants a 1-4 response set, with 1 indicating low self-control and 4 indicating high self-control. For each participant, mean self-control scores were calculated. In the analysis that follows in subsequent chapters, the self-control score is used as an independent variable to be regressed against the dependent variables in each of the four models, along with the other theory-based independent variables, and the control variables discussed above. In subsequent analyses, the self-control score was used as a control variable when assessing the four levels of social learning to look for significance between these levels. This will be discussed in more detail below.

Data Organization

To arrange data for hypothesis testing, matrices were created for each theoretical perspective, including attachment, self-control, and social learning. In addition,

qualitative data were assessed from the open-ended questions provided within the survey to allow for an in-depth analysis on attitudes towards, and reasons for, engagement and desistance in online deviance. Matrices and qualitative response tables can be found in the Appendix.

CHAPTER SIX

QUANTITATIVE RESULTS

Introduction

This chapter focuses on quantitative results for all theoretical measures within the study, including Self-Control, Attachment, and Social Learning. Within each section of the survey pertaining to theory, standard question items were used to ascertain level of self-control, peer, parental, and school attachment, and general social learning (Grasmick et al., 1993; Mouton, 1996; Arsmden and Greenberg, 1989). In addition, components of Social Learning Theory, including differential association, differential reinforcement, imitation, and definitions, were tested based on standard question items in the survey to ascertain specific elements of significance.

Hypotheses

Research Question One asks whether there is a correlation between online and offline engagement in deviant behaviors and seeks to offer an observation as to whether online and offline deviance are connected. The analysis of this question included correlations between middle school and high school in response to engagement in deviant behaviors both online and offline. By utilizing the Grasmick scale to ascertain high or

low self-control, the analysis should be able to provide understanding as to whether self-control is a significant factor in the engagement in deviant behaviors.

Research questions two and three seek to understand relationships between socio-economic factors, general attitudes towards types of deviance and the relevancy of peer, family, and school attachments on engagement in deviancy. By implementing hypothesis testing in a way that includes aspects of Social Learning Theory (Bandura, 1977), the analysis can provide additional context as to whether social learning processes are relevant in aiding with the reduction of engagement in deviant behaviors online.

Research question three relies on Attachment Theory to understand whether peer, school, and family attachment and engagement predict online deviance. The analysis that follows assesses whether three types of attachment (peer, family, school) are predictive of engagement in deviance. The analysis should be able to provide understanding as to whether types of attachment are significant factors in the engagement in deviant behaviors.

The hypotheses include two specific parts that are being tested. For all theoretical testing, the first concerns how online and offline deviance correlate. The second is tested based on each theoretical assumption of whether such assumptions can predict these forms of deviance, as follows.

H1.1: Online and offline deviant behaviors will be correlated.

H1.2: Those with low self-control will have higher levels of online and offline deviance.

H2.2: Those with lower attachments to school, peers, and family will have higher levels of online and offline deviance.

H3.2: Those with lower social learning will have higher levels of online and offline deviance.

Self-Control

In the Self-Control Theory section of the survey, respondents were asked to rate their agreement, on a five-point scale from strongly agree to strongly disagree, based on standardized statements relating to factors contributing to low self-control (Grasmick et al., 1993). Respondents with higher scores (based on agreeing with the statements), have lower levels of self-control. Respondents with lower scores (based on disagreeing with the statements) have more self-control. The total mean average across the items was calculated to indicate each individual level of low self-control.

Table 6.1 displays the mean average responses for each criterion of self-control, on a scale of 1-5, where 1 represents strongly agree, and 5 represents strongly disagree, including a column for the mean average for the total sample.

Table 6.1: Self-Control Criteria

Self- Control Criterion	*Total Sample Mean Average Response*
I act without stopping to think	3.30
I don't think about preparing for the future	4.03
I do what brings pleasure here and now, even at the cost of a distant goal	3.47

I’m more concerned about what happens to me in the short run than long run	3.71
I avoid projects I know will be difficult	3.42
I quit or withdraw when things get complicated	3.71
The things in life that are easiest bring the most pleasure	3.40
I dislike hard tasks that stretch my abilities to the limit	3.71
I like to test myself by doing something a little risky	2.31
Sometimes I take risks for the fun of it	2.68
I sometimes find it exciting to do things I might get in trouble for	3.39
Excitement and adventure are more important than security	3.43
I would rather do something physical than mental	3.00
I feel better on the move than sitting and thinking	2.39
I like to get out and do things more than I like to read or contemplate ideas	2.48
I look out for myself first, even if it makes things difficult for others	3.36
I’m not sympathetic to other people when they are having problems	4.04
If things I do upset people, it’s their problem not mine	3.92
I will try to get the things I want even if it causes problems for others	4.92

I lose my temper easily	3.68
When I am angry at people, I feel more like hurting them than talking to them	4.00
When I'm angry, people stay away from me	3.77
When I have a disagreement it's hard for me to talk	3.26

Table 6.1 reports mean average responses of participants for survey questions based on the identification of low self-control. On average, participants scored highest, and therefore indicated the least self-control, on criteria including not thinking about preparation for the future, not being sympathetic to other people who are having problems and feeling like hurting people rather than talking to them when feeling emotions linked to anger. On average, participants indicated the highest self-control on criteria including taking risks for the fun of it, testing themselves by engaging in risky behaviors, feeling better when moving around rather than sitting and thinking, and feeling unable to talk during a disagreement.

Attachment

In the Attachment Theory section of the survey, respondents were asked to rate their agreement, on a five-point scale from strongly agree to strongly disagree, with standardized statements relating to factors contributing to high or low attachments. This section was further broken down by parental attachment, school attachment and peer attachment. Respondents who scored higher by virtue of mostly disagreeing with, and the statements have lower attachments to either parents, school, or peers. Respondents who

scored lower, i.e., mostly agreed with the statements, have higher attachments to either parents, school, or peers. In the data analysis for the attachment section, mean averages were taken from each sub-group of family, school, and peer attachments to identify which sub-group held the highest attachment among respondents. Criteria were divided into tables based on parental attachment, school attachment and friend group attachment, with the mean average response recorded. Table 6.2 shows criteria for parental attachment with mean average responses.

Table 6.2: Parental Attachment

Parental Attachment Criteria	*Mean Average Response*
I care a lot what my parents think of me	1.59
If I lost the respect of my parents, I would be very upset	1.00
I feel I can talk to my parents about most things	2.32
I value parent opinions	2.00
I would be upset if I let my parents down	1.70
Parent respect means a lot to me	1.60
I have a close relationship with parents that I wouldn't want to ruin	2.03
My parents know what's happening in my life	2.22
I spend more time with family than friends	2.80
I have great admiration for my parents	1.90
My parents trust me	1.70

In these items relating to parental attachment, respondents leaned in the direction of agreement on the Likert scale. This shows that, based on the mean average, respondents showed relatively high average parental attachment as a population. Table 6.3 shows criteria for school attachment with mean average responses.

Table 6.3: School Attachment

School Attachment Criteria	*Mean Average Response*
What my professors think of me matters to me	1.81
I respect professors	1.66
If my professor was disappointed in me, I'd be disappointed in myself	1.81
I like most of my professors	2.01

On these criteria relating to school attachment, respondents again leaned towards agreement on the Likert scale. As with the parental attachment criteria, based on the mean average, respondents showed high average school attachment as a population. Table 6.4 shows mean average survey responses for questions linked to peer attachment.

Table 6.4: Peer Attachment

Friend/ Peer Attachment Criteria	*Mean Average Response*
It's important that my friends respect me	1.57
It would bother me to hurt friends' feelings	1.50
Friend opinions of me mean a lot to me	1.63

I spend more time with friends than family	2.8

On criteria relating to friend or peer attachment, respondents leaned mostly toward agreement, but indicated spending more time with family rather than friends. As with the other attachment criteria, based on the mean average, respondents showed high average peer attachment as a population. For peer attachment, further testing was completed to combine peer attachment and social learning responses in a matrix that allowed for testing across all four levels of social learning (Akers, 1998). This will be discussed later in the chapter.

Social Learning

In the Social Learning Theory section of the survey, respondents were asked to rate their agreement, on a five-point scale from strongly agree to strongly disagree, with standardized statements relating to factors contributing to high or low social learning. In addition, two additional survey sub-sections gauged beliefs that (1) rules are positive and (2) individuals have rights to access information about themselves, even without permission. This section was further divided into peer behaviors in high school and middle school to identify which period of adolescence yielded the higher score, and therefore the higher level of peer deviance.

Table 6.5 presents the social learning criteria with average response scores for middle school and high school. Where scores are lower on the scale, respondents noted that few to none of their friends engaged in listed criteria behaviors online, and where

scores were closer to four (4), respondents noted that most of their friends were engaged in such behaviors.

Table 6.5: Social Learning Criteria

Social Learning Criteria	*High School Average Response*	*Middle School Average Response*
How many of your friends have engaged in cyber-deviance	2.70	2.51
how many of your friends have guessed another's password to access their computer	1.92	1.92
How many of your friends accessed another computer account without knowledge or permission	1.85	1.86
How many of your friends added, deleted, changed, or printed information in another's computer files without knowledge or permission	1.72	1.76
How many of your friends knowingly use, make, or give another person a pirated copy of commercially sold computer software	1.72	1.82
How many of your friends knowingly use, make, or give pirated media to another person	1.98	2.20

How many of your friends look at pornographic or obscene material	2.84	3.06
How many of your friends have obtained a paper or essay they did not write to submit as their own	2.05	2.24

Overall, respondents noted that very few to none of their friends had engaged in social learning criteria behaviors in high school and middle school. Higher scores, such as those noted on average for friends looking at pornographic or obscene material online, indicated that at least half of the respondent's friends engaged in such behaviors.

Table 6.6 presents social learning criteria, in terms of how acceptable the respondents believed the behavior to be, with average response scores. Respondents were asked to rate their level of agreement to the listed social learning attitude criteria on a scale of 1-5, with 1 representing strongly agree, and 5 representing strongly disagree. Thus, the lower the score, the most likely respondents agreed with the criteria, and the higher the score, the most likely respondents disagreed with the criteria.

Table 6.6: Social Learning Attitudes

Social Learning Attitude Criteria	*Average Response Score*
It is important people know what they can and cannot do with computer resources at work or school	1.61
There are clear rules on what is acceptable, ethical, behavior online	2.01

If people don't want me to access their computer they should have better security	3.61
I should be able to look at any computer information that the government, school, business or individual has on me even if they don't give access	3.21
I would never turn in a friend who pirated software or media	2.57
I would never turn in a friend who accessed another's computer without permission	3.22
Compared with other illegal acts, gaining unauthorized access to a computer is not very serious	3.51
Compared with other illegal acts, forms of cyberbullying and harassment are not very serious	3.99
I see nothing wrong in giving copies of pirated materials to foster friendships	3.76

Based on mean average response scores, respondents were more likely to agree that it is important to know what people can and cannot do with computer resources at school or work, and that there should be clear rules on what is acceptable behavior online. Respondents were more likely to disagree with cyberbullying and cyber-harassment being less serious than other illegal acts and seeing nothing wrong in giving copies of pirated materials to foster friendships.

Modeling

The study includes four models analyzing each of these dependent variables, including online deviance in high school, online deviance in middle school, offline deviance in high school, and offline deviance in middle school. In the first model, all independent variables were regressed against online deviance in high school; in the second model, all independent variables were regressed against online deviance in middle school; in the third model, all independent variables were regressed against offline deviance in high school; and in the fourth model, all independent variables were regressed against offline deviance in middle school.

Dependent Variables

Deviancy Indicators

To better assess the relationship between criminological theoretical explanations of engagement in deviance within the study parameters, a deviancy indicator was created for the dependent variable across four models. The deviancy indicator is a dichotomous variable, where participants who identified as engaging in deviance online were given a score of 1, and participants who identified not having engaged in deviance were given a score of 0. The same was repeated for offline deviance for analysis involving comparisons between theoretical explanations of engagement in deviance and offline deviant engagement.

As part of the study, participants were asked to identify whether they had engaged in different types of deviance, either online or offline, in both middle school and high

school. From this, ‘Deviance Indicators’ were created across four levels, including online deviance in high school (D1), online deviance in middle school (D2), offline deviance in high school (D3), and offline deviance in middle school (D4). The deviancy indicator is a dichotomous variable, where participants who indicated engaging in deviance online were given a score of 1, and participants who indicated not having engaged in deviance were given a score of 0. The same was repeated for offline deviance for analysis involving comparisons between theoretical explanations of engagement in deviance and offline deviant engagement. These indicators were created by using the survey questions that indicated whether participants had engaged in deviance, separating those responses across the four levels mentioned above, and giving a binary response where 1 indicated that participants had said they had engaged in deviance at that level, and 0 indicated that participants had reported not being engaged in deviance at that level. The Deviance Indicators were used as dependent variables in all four logistic regression analyses.

Independent Variables

In the regression analyses for all models, average scores based in theoretical assumptions serve as the independent variables in the present set of analyses, and the deviancy indicator was used as the dependent variable in all models. Further, political identification and level of community involvement were used as control variables to ascertain whether there was a relationship between social learning, deviancy, and political affiliation or community involvement.

Scores

Participants responded to scale items within each theoretical section block of the survey. From their responses to those questions, scores were calculated for each respondent to give them scores, including, self-control score, attachment score to peer, family, and school individually, and social learning score. These survey questions provided participants with a response set ranging from 1-4, with 1 being lowest and 4 higher in relation to self-control, attachment to peers, parents, and school, and social learning. For each participant, a mean average score was calculated, by taking the mean average for each survey item within each theoretical block to create the independent variables in the models, i.e., Self-Control Score, Social Learning Score, Peer Attachment Score, Parental Attachment Score, and School Attachment Score. Scores were used to determine whether there was a correlation between those scores and engagement in online deviance, offline deviance, in middle school, and in high school.

Table 6.7 presents descriptive statistics of the variables.

	Mean	SD	Min	Max
Dependent Variables				
Online Deviance HS	0.80	0.398	0	1
Online Deviance MS	0.38	0.485	0	1
Offline Deviance HS	0.40	0.491	0	1
Offline Deviance MS	0.12	0.329	0	1
Independent Variables				
Social Learning Score	2.093	0.999	0.75	5
Parental Attachment Score	1.931	0.637	0	5
School Attachment Score	1.894	0.488	0.45	5
Peer Attachment Score	1.828	0.492	0.25	5
Low Self-Control Score	3.404	0.465	0	5
Control Variables				
Race *(Male = 1)*	0.24	0.43	0	1
Gender *(White = 1)*	0.69	0.53	0	1
Political Affiliation	1.22	0.803	1	5
Community Engagement	0.43	0.496	1	5

Table 6.7: Descriptive Statistics

Table 6.7 reports the means, standard deviations, minimum, and maximum statistic for all variables included in the analysis.

Eighty percent of participants have engaged in online deviance in high school, compared with thirty-eight percent in middle school. When comparing online deviance with offline deviance, a significant percentage of participants engaged more in online deviance than offline deviance. In high school, 80 percent of participants engaged in online deviance, but only 40 percent are engaged in offline deviance. In middle school, 38 percent were engaging in online deviance while only 12 percent were engaging in offline deviance. When examining the independent variables, which include scores given based on theoretical assumptions such as social learning, attachment and low self-control, each score is measured using a 0-5 scale, with 0 being low and 5 being high. The average scores for social learning and all three types of attachment are between 1.8 and 2.1, which suggests relatively low attachment and lower social learning among participants. The average scores for low self-control are much higher (3.4), indicating mid-to-high self-control.

A correlation matrix between online and offline deviance in high school and middle school appears in Table 6.8

Table 6.8: Correlation Matrix

Correlations

	Social Learning	Parental Attachment	School Attachment	Peer Attachment	Low Self-Control	Online HS	Online MS	Offline HS	Offline MS	Gender	Race
Social Learning											
Parental Attachment	.068										
School Attachment	.010	.412**									
Peer Attachment	.074*	.027	0.374**								
Self-Control	.049	-.035	-.064*	.025							
Online HS	.009	-.021	-.025	.031	.069						
Online MS	-.050	.013	-.003	.007	.012	-.274**					
Offline HS	-.022	.009	-.026	-.056	-.011	-.137**	.357**				
Offline MS	-.036	-.025	.025	.007	.001	-.092*	.262**	.391**			
Gender	-.061	0.052	.021	-.045	.063	.063	.074	.026	.023		
Race	.042	.005	.013	-.007	-.014	-.014	-.004	-.102*	.004	.037	

***. Correlation is significant at the 0.01 level (2-tailed).*
**. Correlation is significant at the 0.05 level (2-tailed).*

Table 6.8 reports a correlation matrix for all variables included in the analysis to show how closely related the variables are to one another by strength and direction. There is a positive correlation between online deviance in middle school and offline deviance in high school. There are also positive correlations between online deviance in high school and both offline deviance in high school and offline deviance in middle school. Offline deviance in high school is positively correlated with all the other deviance variables. Moreover, there is a positive correlation between online deviance in middle school and offline deviance in high school. Where positive correlations were found, the variables are linearly related and therefore change together at a constant rate in a positive direction. While these relationships do not establish cause and effect, they do show that there are simple relationships between the variables.

Analysis

Logistic regression modeling was used to ascertain whether predictive relationships exist between variables, that is, the likelihood of engaging in online deviance given the self-control matrix. In this study, the logistic regression model is used to look for an effect on the output related to the likelihood of engaging in online deviance given the theoretical scores calculated for each assumption.

The formula for the logistic regression model is as follows:

$$Z = \ln (p/1\text{-}p) = B0 + B1.X1 + B2.X2 + B3.X3 \ldots e.$$

Where *ln* is the natural logarithm and *(p/1-p)* is the odds or logit, where *p* is the probability that *y* cases equal 0. This modeling technique was used for all four dependent variables. The models include independent variables that represent theoretical assumptions from the literature, specifically Attachment Theory, Self-Control theory, and Social Learning Theory.

Testing was conducted to both include and exclude control variables, including political affiliation and level of community involvement. This was done to ensure any results were generalizable given missing data within the survey section where respondents did not provide answers to control variable questions. In testing based on self-control, there were no significant differences based on the inclusion or exclusion of control variables, and all regression outputs were comparable.

In the main analysis, the self-control score was used as an independent variable to be regressed against the dependent variables in four models, along with the other theory-based independent variables, and control variables discussed previously. In subsequent analyses, the self-control score was used as a control variable when assessing the four levels of social learning to find significance between these levels. This will be discussed at length in the Social Learning chapter. Further, political identification and level of community involvement were used as control variables to ascertain whether there was a relationship between social learning, deviancy, and political affiliation or community involvement. The regression matrix appears in Table 6.9.

Table 6.9: Regression Matrix

	D1			D2			D3			D4		
	B	*SE*	*OR*	*B*	*SE*	*OR*	*B*	*SE*	*OR*	*B*	*SE*	*OR*
Independent Variables												
Social Learning Score	-.049	.103	.952	.037	.085	1.038	-.004	.084	.996	-.039	.125	.961
Parental Attachment Score	.067	.195	1.069	.033	.160	1.033	.093	.158	1.098	-.149	.238	.862
School Attachment Score	-.183	.268	.832	-.104	.222	.901	-.112	.219	.894	.157	.319	1.170
Peer Attachment Score	.426	.259	1.531	.056	.208	1.058	-.171	.206	.843	-.002	.302	.998
Self-Control Score	.369	.235	1.447	.063	.197	1.065	.002	.193	1.002	-.084	.281	.919
Control Variables												
Gender *(Male=1)*	.325	.202	1.384	.292	.168	1.339	.108	.165	1.114	.125	.241	1.133
Race *(White=1)*	-.021	.251	.980	.096	.204	1.100	-.386	.206	.680	.129	.289	1.138
Political Affiliation	.023	.132	1.023	.065	.109	1.067	-.034	.107	.966	.010	.157	1.010
Community Involvement	.267	.219	1.306	-.115	.178	.892	.246	.175	1.279	.034	.255	1.035
Constant	-.682	1.02	.505	-.964	.849	.381	.055	.834	1.056	-1.679	1.218	.187
Chi-Squared	8.83			5.276			5.786			6.354		
Nagelkerke R square	.025			.011			.019			.004		

OR = odds ratio; B = regression coefficient; SE = standard error.
**p<.05. **p<.01. ***p<.001.*
n = 766 in all models

Logistic models may be interpreted by either examining the probability of an outcome (in this case, online and offline deviance) or by examining the odds of the outcome (Roncek 1991; DeMaris 1993). In the logistic regression matrix in Table 6.9, we observe no significant findings. The column marked OR represents the odds ratio, or antilog, for each predictor variable. The odds ratio indicates the multiplicative impact on the odds of reporting given a one-unit change in the predictor variable, while controlling for other variables in the model. For dichotomous variables, the odds ratio represents the impact on the odds of engaging in online or offline deviance (either in middle school or high school) for respondents with that characteristic (coded 1) versus those without (coded 0, i.e., the reference or deleted category).

In the logistic regression model, no statistically significant results were found in any of the four models, as p-values were consistently >0.05 in all modeling, and therefore any significance apparent in odds-ratio testing would not be significant given that the probability of an effect on the dependent variable is not significant.

Results

Regression analysis showed no significant relationships between any of the predictor variables and the outcome variables across all four models, as p-values were consistently >0.05 in all modeling. Therefore, we may not interpret any of the odds ratios as significantly affecting the dependent variable for either family, peer, or school attachment variables.

This testing was replicated to include and then exclude control variables, since there were many missing responses for the control variables. Therefore, duplicate testing was conducted to ensure results could be generalized to the entire sample and not just the respondents who answered the questions consulting control variables. The results remained consistent whether control variables were included or excluded, with both regression analyses finding insignificant *p*-values.

This outcome was consistent across all testing; no statistical significance was found in any of the four models, between online and offline deviance, among peer, school, or parental attachment, self-control, or social learning.

This indicates that among the population sampled, levels of self-control, strength of attachment to peers, parents, or school, and social learning do not have a significant relationship between engaging in deviance, either online or offline, in middle school or in high school. However, as the study progresses into social learning, peer attachments will become significant.

Political Affiliation

In testing where control variables were included, political affiliation scores were used, and regressed against deviancy indication along with attachment scores. The scale of political affiliation was such that where respondents identified having a score closer to 1, they were considerably more liberal than those who gave a score closer to 5, who identified as being considerably more conservative. In regression analysis for political affiliation, significant results were obtained ($p = .001$). The statistical significance

reflected a negative correlation, which shows that for every increase in conservatism, the likelihood of engaging in deviant behaviors decreases.

It is important to note that there were a substantial number of missing responses to the political affiliation question, so testing for this variable may not be generalizable to the population. However, this result does suggest that among participants in the population sample who did indicate their political affiliation, there was statistical significance in such a negative correlation direction.

Social Learning and Peer Attachment

Akers (1998) modified Differential Reinforcement Theory into Social Learning Theory, which consists of four main components: differential associations, definitions, differential reinforcement, and imitation. For this study, participants were asked a series of questions that related to each component of Akers' Social Learning Theory as part of wider questioning rooted in social learning and attachment theories. As part of the analysis, the responses were developed into a matrix where each of the four components allowed for a total score to be created. The resulting scores are the differential association score, the definitions score, the differential reinforcement score, and the imitation score.

Component Testing

In additional testing, mean average scores were calculated from survey questions pertaining to the four components of Social Learning Theory, including: differential

association, imitation, differential reinforcement, and definitions. The matrix created to calculate these scores may be found in the Appendix.

The component scores were used in a logit model and regressed against the same dependent variables from the larger analysis, consisting of deviancy indicators across four levels, including online high school deviance, online middle school deviance, offline high school deviance, and offline middle school deviance. Self-Control Scores were used as control variables in this model since the model was designed to test Social Learning Theory. An alternative theory, i.e., Self-Control, was used as the control. The purpose of this additional testing was to see whether there was any evidence that Social Learning Theory may help to explain engagement in online deviance. Results appear in Table 6.10.

Table 6.10: Social Learning Factor Regression

	DV1			DV2			DV3			DV4		
Variables	***B***	***SE***	***OR***	***B***	***SE***	***OR***	***B***	***SE***	***OR***	***B***	***SE***	***OR***
Independent												
Differential Association Score	*-0.09*	0.076	0.914	0.079	0.064	1.083	0.066	0.063	1.068	0.035	0.09	1.035
Imitation Score	*-0.004*	0.2	0.996	-0.031*	0.163	0.969	-0.057	0.161	0.944	-0.139	0.23	0.871
Differential Reinforcement Score	*-0.013*	0.15	0.987	-0.187	0.123	0.829	-0.337	0.122	0.714	-0.344	0.18	0.709
Definitions Score	*0.783*	0.219	2.188	-0.486*	0.18	0.615	0.089	0.176	1.093	0.032	0.26	1.033
Control												
Self-Control Score	0.368	0.225	0.144	0.154	0.186	1.166	0.027	0.182	1.027	0.094	0.27	1.099
Chi-Square	13.26			16.13			9.598			6.457		
Nagelkerke R	0.048			0.033			0.02			0.013		

Valid *n* (listwise): 770

In the first, third, and fourth models of Table 6.10, which concern online deviance in high school, and offline deviance in both middle school and high school, no statistical significance was found, with p-values all consistently >0.05. This indicates that social learning components do not predict engagement in offline deviance in either middle school or high school, nor in online deviance in high school. However, the second model, which concerns engagement in online deviance in middle school, shows significance for the imitation score ($p < .001$) and the definitions score ($p < .001$) in a negative direction. This suggests that for every increase on the scale for imitation and definitions, the less likely engagement in deviant behavior occurs. Akers (1998) notes that *imitation* is essentially the mimicking of behaviors after observing others participating in such behaviors, and *definitions* are the attitudes or meanings we give to behaviors, whether based on general morality, or specific to our own view of acts of crime. However, this result is against the literature in direction, since we would expect an increase in the predictor variable, i.e., imitation and definition, to result in an increase in our outcome variable, i.e., engagement in deviance.

Conclusion

When evaluating the results of regression analysis and statistical testing in relation to self-control and engagement in online deviance, the results show no statistical significance between any of the tested models and the self-control score. Further, the first model shows 79.9 percent of participants engaging in online deviance. The second model also shows 61 percent of participants were engaged in online deviance. The fourth model

also shows 86.9 percent of participants engaged in offline deviance. The fact that most of the population sample were engaged in deviance may explain why there was no significance among other factors in the model, since no variation for behaviors could be identified given most of the population were engaged in deviance. These findings suggest that self-control, peer, parental or school attachment, and social learning are not factors in engagement in online deviance across any of the models. However, when we take components of Social Learning Theory (Akers, 1998), and test for interactions between those components and engagement in deviance online, offline, in middle school, and in high school, we get significance. Specifically, statistical significance was shown for the *Imitation Score* in model 2, which concerned online deviance indication in middle school, and in the *Definitions Score*, also in model 2, albeit in a negative direction. There was no other statistical significance found in any of the other three models for any other variable.

Imitation is the mimicking of behaviors after observing others participating in those behaviors; definitions are the value we attribute to certain behaviors as being good or bad based on general morality and our own specific view (Akers, 1988). In the sample, the results suggest that in middle school, individuals are less likely to engage in online deviance where they are imitating the behaviors of others, and where there is a perceived definition given to such behaviors that enable the individual to define their behavior as positive or socially acceptable and therefore not deviant. To reiterate, this significance is only found at the middle school level concerning online deviance and is not present at the middle school level for offline deviance, nor at the high school level for online or offline deviance. Since no significance was found for the other two levels regarding Social

Learning Theory, this suggests that differential reinforcement and differential association were not significant factors in the engagement in deviance among this population.

CHAPTER SEVEN

QUALITATIVE RESULTS

Introduction

This chapter introduces qualitative findings that emerged from the study. Open-ended questions were asked in the survey to provide depth as to why teenage online and offline deviance exists. While some questions allowed participants to expand on behaviors in which they had engaged during middle school and high school, other questions asked them to provide details as to why they engaged in such behaviors. In the final section of open-ended questioning, those participants who identified having engaged in deviant behavior online were asked to provide more information on what led them to either continue such behaviors or to desist.

Focus Questions

This chapter will focus on two main criteria: the differences identified between online and offline engagement in deviant behaviors in both middle school and high school.

The analytic process for open-ended qualitative questions involved several steps. Once data was collected, the researcher excluded qualitative responses from the initial

data analysis and analyzed them separately using coding schemas. Codes were created at based on key phrases and themes taken from open-ended questions which asked participants to explain why they believed juveniles engaged in online deviance, and what caused them to increase, or decrease, their own engagement in those behaviors.

Coding

In the first cycle of the analysis, in vivo coding was used to protect the subjective nature of responses, which allowed the researcher to code based on specific words or phrases provided by participants. In vivo coding, which is rooted in grounded theory, simply means that words that are included by the study participants are used as codes (Manning, 2017).

In the second cycle of the analysis, thematic coding was used to group in vivo codes based on themes reflecting negative and positive attitudes, specific experiences that were shared, specific motivations for increasing or decreasing behaviors, and opinions about the types of sanctions, if any, that participants believed would be suitable for mitigating such behaviors. Both analytic cycles were conducted manually. Thematic coding is used to find themes in the text by analyzing the meaning of words or by linking common usages of the same words, phrases, or contexts (Gibbs, 2019).

From the thematic coding, categories were created; one for codes relating to disengaging in behaviors, and one for codes relating to increase engagement in behaviors. In addition, sub-categories were created under each main category. These sub-categories were created by grouping themes that emerged from the analysis that became apparent

following thematic coding. For example, where respondents noted feelings based on their perceived moral standing as reasons for increased engagement in behaviors, this in-vivo code would be placed under the category of ‘increased engagement’, and the sub-category of ‘morality’. The process for the remaining themes can be found in the Appendix.

Offline Deviance Engagement

In this section of the survey, participants were asked to identify their engagement in offline deviant behaviors, including curfew violation, theft, trespass, underage drinking, substance abuse or drug use, bullying, or vandalism. In total, 319 participants said they had engaged in these behaviors. Table 7.1 provides a descriptive look at the instances of each type of deviance respondents identified.

Table 7.1: Types of Deviance

	Curfew Violation	Trespass	Underage Drinking	Drug Use	Bullying	Theft	Vandalism
High School	216	57	49	66	15	14	14
Middle School	45	12	15	4	13	5	8

As Table 7.1 shows, engagement in offline deviant behaviors among respondents is much higher in high school. In responses for middle school offline deviance, most respondents identified curfew violation as the main behavior, with drug use, trespass, and underage drinking also commonly noted. In responses for middle school offline deviance,

most respondents also identified curfew violation as the main behavior. Underage drinking was also commonly noted, but at a significantly lower rate than in high school.

Online Deviance Engagement

In this section of the survey, participants were asked to identify their engagement in online deviant behaviors, including cyber-bullying, identity theft, pretending to be someone else, sexting, sharing others' nude pictures without permission, trolling, social media spamming, radicalization, cheating on a test, using the internet at work, pirating/ copyright infringement, harassment, and sharing or creating malicious posts. In total, 266 participants identified having engaged in these behaviors. Tables 7.2 and 7.3 provide a descriptive look at instances of each type of deviance reported by respondents in both middle school and high school.

Table 7.2: Offline Deviance

	Bullying	Identity Theft	Pretending to be Others	Sexting	Sharing Others' Nudes	Trolling	Radicalization
High	7	2	14	48	4	67	3
Middle	11	2	9	10	3	45	4

Table 7.3: Online Deviance

	Cheating on Test	Company Internet Use	Pirating/ Copyright	Harassment	Malicious/ Flaming Posts	Spamming	Dating Abuse

High	91	54	106	7	24	14	5
Middle	38	23	56	4	17	8	1

As Tables 7.2 and 7.3 show, during high school, the most common forms of cyber deviance are pirating or copyright infringement, followed by using the internet to cheat on a test, trolling, company or school internet use, and sexting. In middle school, the most common forms of cyber deviance are pirating and copyright infringement, followed by trolling, cheating on a test, and work or school internet use. In high school, the least frequent cyber-deviant behaviors include identity theft, radicalization, and sharing others' nudes. In middle school, the least common activities include dating abuse, identity theft, and sharing others' nudes. However, there is a significant spike in engagement in dating abuse, cheating on a test, pirating or copyright infringement, trolling, and sexting from middle school to high school. This may be because of changes in life course of adolescents from middle school to high school, or as a result from changes in peer groups from middle school to high school.

Online Engagement

In this section of the survey, participants were asked to expand upon the reasons for their engagement in online deviance, reasons for their continued or increased engagement in such behaviors, and reasons for disengaging from such behaviors. In the section that follows, desistance and increased engagement will be discussed separately.

Desistance

Following the in-vivo and grouping coding cycles, responses based on disengagement in online deviance were grouped into several categories. The morality category includes participants who identified moral reasons for desistance, such as believing the behavior was morally wrong. The matured category includes participants who identified growing up or maturing as the reason for desistance. The economic change category includes participants who said they no longer needed to engage in such behaviors because they could afford not to do so. The habit change category includes participants who identified positive habit changes. The consequences category includes participants who said they feared future consequences, or the effect of their deviance engagement may have on their future should they be caught. Finally, the mental health or anxiety category includes participants who identified stopping behaviors because of a negative impact on their mental health following such engagement.

Desistance Coding

In this section, quotes taken during in-vivo coding will show how sub-categories were created for the types of desistance that were based on themes that emerged from thematic coding analysis.

Morality

Common responses in this sub-category included; “I stopped because I knew it was bad”, “I realized how wrong it was”, “I realized how serious it was”, or, “I realized it was morally wrong”.

Matured

Common responses in this sub-category included; “I matured during high school”, “I grew up, it wasn’t funny anymore”, “I realized cheating won’t make you smarter or help you learn” or, “I didn’t want to be immature any more”.

New Friend Group

Common responses in this sub-category included; “I got new friends”, or, “I got better friends”.

Economic Change

Common responses in this sub-category included; “My parents bought the streaming services so I no longer needed to pirate”, “we could afford the channels now”, or, “I got more streaming services”.

Habit Change

Common responses in this sub-category included; “I stopped watching the show”, “I got bored and found better things to do with my time”, or, “I began to focus my time on learning so I didn’t have to cheat”.

Consequences

Common responses in this sub-category included; “worry about what would happen”, “I was worried it might be used against me”, “my school had severe consequences for cheating”, “I became scared of getting caught”, or, “I became aware of the consequences”.

Mental Health/ Anxiety

Common responses in this sub-category included; “Every time I cheated my anxiety got worse”, “sending nudes and sexting made me feel bad about myself and I ended up in therapy”, or, “Feeling like I wasn’t earning my grades increased my anxiety”.

Table 7.4 summarizes frequencies of responses in each category.

Table 7.4: Types of Desistance

Morality	Matured	New Friend Group	Economic Change	Habit Change	Consequences	Mental Health/ Anxiety
24	32	4	13	23	17	3

The most frequent reason for disengagement in online deviance was maturing, followed by morality and habit changes. These findings suggest that as adolescents mature, their moral compass changes to allow them to better understand the right and wrong of their behaviors. The findings also suggest that as adolescents mature, so too do their habits. Participants identified positive habit changes leading to disengagement from what they considered negative behaviors, such as cheating on a test, as reasons for desistance. Moreover, participants who identified positive changes in their economic circumstances as the main cause of desistance had previously engaged in pirating or copyright infringement. This is the only category of deviance type that is strongly linked to economic pressures, meaning that people tend to stop pirating entertainment media once they can afford to obtain it legally where they believe the behavior to be morally wrong.

Increased Engagement

Responses reflecting increased engagement in online deviance were also grouped into numerous categories. The morality category includes participants who identified moral reasons for increased engagement, such as feeling morally positive about pirating or copyright infringement as a political response to “big-business corporation”, or “corporation greed”. The enjoyment category includes participants who identified increased enjoyment in the deviant activity in which they were engaged. The economic category includes participants who said they could not access resources due to economic

distress unless they engaged in such behaviors. The ease of use or benefit category includes participants who said the type of deviance they were engaged in was either useful to them, or resulted in some type of benefit to them, such as cheating on a test. The emotional category includes participants who identified an emotional response to engaging in such online deviance; responses in this category included both negative and positive emotional responses that caused the respondent to increase their engagement in that behavior. For example, some participants said they engaged in cyber-harassment or cyberbullying out of feelings of loneliness. Finally, the consequences category includes participants who identified never having suffered consequences for engagement in deviant behaviors, and therefore felt it was safe for them to continue.

Increase Coding

In this section, quotes taken during in-vivo coding will show how sub-categories were created for the types of behavior increase or continuation that were based on themes that emerged from thematic coding analysis.

Morality

Common responses in this sub-category included; “I don’t think there’s anything wrong with pirating”, “I still do these behaviors because I disagree with big business”, or, “as long as it’s not morally bad porn it’s fine”.

Enjoyment

Common responses in this sub-category included; “it was funny”, “we were having fun, it wasn’t harmful”, or, “trolling among friends is funny”.

Economic

Common responses in this sub-category included; “I can’t afford the channels”, “my family are not financially stable and I need the content for school”, “my family became financially unstable”, “I don’t want to pay for movies”, or, “piracy is cheaper than the alternatives”.

Ease of Use

Common responses in this sub-category included; “pirating is more convenient than the alternatives”, or, “It’s easier to pirate in my room than fight over the tv”.

Emotional

Common responses in this sub-category included; “I felt like I needed to cheat on tests or I wouldn’t pass and it would stress me out”, “my teen hormones made me do it”, or, “I sexted because I loved my boyfriend”.

Consequences

Common responses in this sub-category included; “I’ve never been caught so don’t feel the need to stop”.

Table 7.5: Increases in Engagement

Morality	Enjoyment	Economic	Ease of Use/ Benefit	Emotional	Consequences
17	13	11	7	6	1

Table 7.5 shows that the most commonly mentioned categories are morality, enjoyment, and economic changes. In the morality category, participants most often noted that they continued or increased engagement in deviant behaviors online as a direct result of their moral understanding of the type of deviance. For example, those who identified moral reasons for continuing behaviors were either engaging in online sexual behaviors or pirating and copyright infringement. Those who identified engagement in online sexual activities, such as sexting or sharing others' nudes without permission, simply saw nothing morally, or legally, wrong with these behaviors. Those who identified engagement in pirating or copyright infringement noted increased engagement in this behavior because of their moral belief that there is nothing wrong with this type of deviance. Participants in this category primarily said they purposely engaged in pirating or copyright infringement to take a moral stand based on their understanding of how the entertainment industry works. For example, some said they stream illegal media content because they disagree with the economic privilege of certain artists or media companies.

Conclusion

Curfew violation and underage drinking were the most common forms of offline deviance in middle school. In high school, curfew violation and substance abuse or drug use were the most common. Among online behaviors in middle school, pirating or copyright infringement and trolling were the most frequently mentioned forms of deviance. In high school, pirating or copyright infringement and using the internet to cheat on a test were the most common. Overall, between middle school and high school, there seems to be a common trend between the types of deviance engaged in both online and offline; both pirating and curfew violation are the most indicated forms of deviance in middle school and high school.

When evaluating open-ended survey responses between participants who said they stopped or increased their engagement in online deviant behavior, there are some commonalities. Those who identified stopping engagement in online deviance indicated maturity, morality, and positive habit changes as the primary reasons for desistance. This suggests that among participants who stop engagement in online deviance, growing out of it, solidifying attitudes about what is morally wrong, and positive habit changes are key aspects of desistance. Those who identified increased engagement in online deviance indicated morality, enjoyment, and economic reasoning for continuing their behavior. Specifically, believing a behavior, such as sexting or sharing others' nudes without permission, to be morally acceptable led participants to continue or increase engagement in that behavior. Equally, political or moral motivation, such as seeing the negative

economic effects of pirating on large media corporations as a positive consequence, led participants to increase engagement.

Those who cited economic reasons for either desistance or increased engagement in online deviance had more to say in terms of economic circumstances playing a part in their continued engagement. Those who cited economic reasons for stopping engagement in online deviance noted feeling that like they no longer needed to engage in these behaviors because their economic circumstances changed positively, for example, they no longer needed to pirate media content because they could afford to pay for the legal streaming channels. Those who cited economic reasons for increasing engagement in online deviance noted their awareness of consequences or moral and legal concerns but felt that their disadvantaged economic circumstances forced them to continue engagement in behaviors like pirating either to compete with their peers, or because a resource was required for their education. This suggests, at least for economic-based deviance continuance, that lack of maturity is not at play. Rather, participants in this category are aware of the moral and legal issues or consequences of their actions, but feel their economic need outweighs those concerns.

CHAPTER EIGHT

DISCUSSION AND CONCLUSION

Introduction

In the previous chapters, several hypotheses were tested which emerged from key theoretical explanations for juvenile delinquency, including Attachment Theory, Self-Control Theory; and Social-Learning Theory. In this chapter, key findings from the analysis will be reintroduced and discussed as they relate both to the hypotheses and criminological theory. Finally, policy implications will be discussed based on the findings of this study.

Hypotheses

To provide context for this chapter, this section will reintroduce key hypotheses and research questions asked as the focus for this study. Listed below are the three key hypotheses the study has sought to investigate as they relate to the phenomenon of online deviance among juveniles.

H1: Does low self-control affect engagement in deviant behaviors?

H2: Do peer, family, and/or school attachments affect engagement in deviant behaviors online?

H3: Does social learning affect engagement in online deviancy?

Types of Deviant Behaviors

Participants in the study were asked to identify types of deviance they had engaged in, both online and offline, during middle school and high school. The results showed that engagement in offline deviant behaviors among respondents is much higher in high school. In responses concerning middle school offline deviance, most respondents identified curfew violation as the main behavior engaged in, with drug use, trespass, and underage drinking also commonly noted. In responses about middle-school offline deviance, curfew violation was again the most common behavior. Underage drinking was also frequently noted, with a significantly lower rate than those behaviors in high school.

Results about online deviant behaviors showed that during high school, the most common forms of cyber deviance come from pirating or copyright infringement, followed by using the internet to cheat on a test, trolling, work or school internet use, and sexting. In middle school, the most common forms of cyber deviance include pirating or copyright infringement, followed by trolling, cheating on a test and work or school internet use. In high school, the least common cyber-deviant activities include identity theft, radicalization, and sharing others' nudes. In middle school, the least commonly mentioned activities were dating abuse, identity theft, and sharing others' nudes. However, there is a significant spike in engagement in dating abuse, cheating on a test,

pirating or copyright infringement, trolling, and sexting between middle school and high school. There was a significant increase in cheating on tests between middle school and high school, which is important to consider given that participants all went on to college.

Online vs. Offline

The analysis showed that 80 percent of study participants engaged in online deviance in high school, with just 38 percent in middle school. When comparing online deviance with offline deviance, a much larger percentage of participants engaged in online deviance. In high school, while 80 percent of participants are engaging in online deviance, only 40 percent are engaged in offline deviance, and in middle school, 38 percent engaged in online deviance compared to just 12 percent who were engaged in offline deviance.

Among the independent variables, which include scores given based on theoretical assumptions such as social learning, attachment and self-control, average scores for social learning and all three types of attachment indicate relatively low attachment and social learning among participants. The average scores for self-control were much higher, indicating a mid-to-high level of self-control among participants.

Further, based on the correlation between online deviance and offline deviance at both the high school and middle school levels, there is positive correlation between online deviance in middle school and offline deviance in high school. There are also positive correlations between online deviance in middle school and offline deviance in high school. When looking at online deviance in middle school, there are also positive

correlations between online deviance in high school, offline deviance in high school, and offline deviance in middle school. When looking at offline deviance in high school, there are positive correlations between all variables. When looking at offline deviance in middle school, there is a positive correlation between online deviance in middle school and offline deviance in high school. While these correlations do not indicate cause and effect, they do show that there is a basic relationship between the variables.

Self-Control Theory

The first hypothesis asks whether self-control impacts engagement in deviant behaviors, both online and offline. Chapter 6 provided an in-depth statistical analysis of self-control's impact on deviance. The results of this analysis showed revealed no statistical significance at any level between self-control and engagement in deviance. This suggests that in this population, self-control is not an indicating factor for engagement in deviance.

In understanding why there is a lack of significance, there are a few considerations to address. The population sample consisted of participants who were already going to college and did not include individuals who had either not completed high school, or who had chosen not to go to college. Descriptive statistics for self-control showed that the mean average level of self-control for this population was mid-to-high, and therefore the study population lacked participants with low self-control. Thus, the sample population contained individuals with already higher levels of self-control and so

variances without a control group of low self-control participants may have caused insignificant results.

Attachment Theory

The second hypothesis asks whether peer, family, and/or school attachments have an impact on engagement in deviant behaviors online. Chapter 7 provided an in-depth statistical analysis of Attachment Theory's impact on deviant behavior, specifically concerning peer attachment, parental attachment, and school attachment.

In testing based on peer attachment, no statistical significance was found at any level, including online or offline, in high school or in middle school. This suggests that peer attachment is not a significant indication of engagement of deviance at any level among this population. However, some elements of peer attachment were subjected to further testing and some significance was found. This will be discussed as part of the discussion regarding Social Learning Theory.

In testing based on school attachment, no statistical significance was found at any level, including online or offline, in high school or in middle school. This suggests that school attachment is not a significant indication of engagement of deviance at any level among this population. Since the sample population included only participants who had graduated high school and were planning to attend college, one could argue that this sample would likely have already had higher school attachment to achieve admission into college. Thus, without including participants who had dropped out of high school, or who

had no intention of going to college, the study lacks a control group with which to test against based on school attachment.

In testing based on parental attachment, there was no statistical significance found at any level, including online or offline, in high school or in middle school. This suggests that parental attachment is not a significant indication of engagement in deviance at any level among this population. As with school attachment, the study lacks a control group that would include participants who either dropped out of high school, or who chose an alternative path than attending college. As a result, the population sample may be somewhat biased towards higher achieving individuals who already have the higher levels of school and parental attachment that are typically seen in college students.

Social Learning Theory

The third hypothesis asks whether social learning has an impact on engagement in attitudes towards and engagement in online deviancy. Chapter 8 provided an in-depth statistical analysis of Social Learning Theory in both high school and middle school environments. In testing based on Social Learning Theory, no significance was found based on one mean average score of general social learning.

However, in further analysis, survey responses that pertained specifically to social learning and some aspects of Peer Attachment were separated based on the four elements of Social Learning Theory (Akers, 1998), including imitation, differential association, differential reinforcement, and definitions. The results of this modeling were significant for the *Imitation Score* in the second model of online deviance in middle school, as well

as in the *Definitions* score in the same model. These results suggest that elements of imitation, which allows individuals to learn new behaviors by witnessing and then repeating the behaviors, and definitions, meaning the value we attribute to behaviors as being deviant or non-deviant, affect engagement in online deviance in middle school. The qualitative analysis supported these findings, with participants commonly noting elements of imitation and how deviant behavior is defined as reasons for engagement in online deviance.

Political Affiliation

Political affiliation also significantly affects the odds of engaging in online deviance in high school. This variable, which ranges from very liberal (1) to very conservative (5), increases the odds of engaging in online deviance in high school by 2 percent (OR = 1.02) for every increase towards more conservative.

The odds ratio represents the *multiplicative* impact on the odds of reporting for individuals who are one unit apart on a given predictor variable. For the interval variables such as political affiliation which varies on a scale from very conservative (1) to very liberal (5), the odds of engaging in online deviance in high school increases by 2 percent (OR = 1.02) for every increase towards more liberal.

It is important to reiterate that there were a large number of missing responses for the political affiliation question, so testing for this variable may not be generalizable to the entire population. However, this result does suggest that among respondents in the population sample who did indicate their political affiliation, increased conservatism

depresses the likelihood of engaging in deviant behaviors. This result is likely explained by the fact that conservatives tend to be more concerned with following the rules than liberals (e.g., Carney et al. 2008).

Desistance

In open-ended questions asked of participants who identified having engaged in deviant behaviors online, results provided a deeper understanding of why participants choose to stop engaging in such behaviors. The results showed that the most common reason for disengagement from online deviance was due to maturing, followed by morality and habit changes. This suggests that as adolescents mature, their moral compasses change to allow them to perceive right and wrong in their behaviors. This finding also suggests that as adolescents mature, so too do their habits. Participants identified positive habit changes leading to disengagement from what they considered negative behaviors, such as cheating on a test, as reasons for desistance. Participants who identified positive changes in their economic circumstances as the main cause of desistance from pirating or copyright infringement. This is the only category of deviance type that is strongly linked to economic pressures.

Plé and Demangeot (2020) look at the interrelationship between online and offline deviant behaviors through the concept of social contagion. They argue that a behavior is deviant when others view it as a violation or social norms, laws, or policies in an organizational framework, and that social contagion may explain the cause for more instances of online deviance versus offline deviance (Plé & Demangeot, 2020). In this

context, social contagion accounting for increases in online deviance is quite common, since adolescents are more likely to be affected by social contagion due to susceptibility to peer influence or social media (Plé & Demangeot, 2020).

Increased Engagement

In open-ended questions asked of participants who identified having engaged in deviant behaviors online, results provided a deeper understanding of why participants choose to continue or increase frequency of engaging in such behaviors. The results of this analysis showed that the most identified categories are morality, enjoyment, and economic changes. In the morality category, participants were most likely to note that they continued or increased engagement in deviant behaviors online as a direct result of their moral understanding of the type of deviance. Those who identified moral reasons for continuing behaviors were especially likely to have been engaged in online sexual behaviors or pirating and copyright infringement.

Those who identified engagement in online sexual activities, such as sexting or sharing others' nudes without permission, simply saw nothing morally, or legally, wrong with these behaviors. Those who identified engagement in pirating or copyright infringement noted increased engagement in this behavior because of their moral view that there is nothing wrong with this type of deviance. Participants often said they engaged in pirating or copyright infringement to take a moral stand based on their understanding of how the entertainment industry works, for example, streaming illegal

media content because they disagree with the economic privilege of certain artists or media companies.

Limitations

In reflection of the results of the study being largely statistically insignificant, there are some limitations to the study that will be reintroduced in this section. Firstly, as we see from the descriptive statistics in the analysis, most of the sample admitted to having engaged in some type of deviance, which suggests a lack of control group or bias in the sample. Further, those included in the study were already on the path to attend college, which means that those who dropped out of high school or who otherwise were not attending college were excluded from the sample. This may help to explain the insignificance among theoretical testing, since we can assume that individuals who are enrolled in college are probably more likely to already have higher attachment to school and higher levels of self-control. In addition, the average scores for self-control were mid-to-high for participants, meaning that this sample already had higher levels of self-control.

In the survey instrument, there were lots of missing data, particularly in the section relating to demographics. As we see in the literature, adolescents with low self-control are more likely to skip questions or not finish a survey. Thurs, the missing data may be as a result of the sample itself, which may also explain why the sample had higher levels of self-control on average.

Further, since the study was not looking at the intensity of deviant behaviors but was interested in studying whether juveniles were engaging in behaviors or not, the results may not be as accurate as a study where severity of deviant acts are accounted for. For example, in types of deviant behaviors listed in the study, we could argue that certain behaviors are more severe than others and therefore should not be grouped together for testing. Were we to replicate the study, it would be beneficial to separate behavior types based on intensity or severity of the behaviors. Should the study be replicated with a different sample, or with the inclusion of severity of behavior, it is likely that results would differ significantly.

Connection to Theory

The only theoretical assumption where statistical significance was found was Social Learning Theory. In all other theoretical testing, no significance was found. This suggests that attachment and self-control theories have no indication for engagement in deviance among this population. To reiterate, the root cause of insignificant findings for attachment and self-control are likely a result of the population sample. The sample included participants who were already enrolled in college and were shown to have mid-to-high levels of self-control prior to testing. The sample failed to include adolescents who dropped out of high school, or who otherwise were not enrolled in college. The inclusion of adolescents who went on to attend college and those who did not would be likely to yield different, and potentially significant results, given a more accurate representation of the general population of adolescents.

In Social Learning Theory, statistical significance was found where modeling accounted for all four elements of Social Learning Theory. These elements include imitation, differential reinforcement, differential association, and definitions, but only imitation and differential reinforcement were found to be significant, and only at the middle school level concerning online deviance. Imitation and definitions are key indicators in middle school for engagement in online deviance, but the other elements of Social Learning Theory are not sufficient indicators for engagement in deviance, online or offline. Since online deviance typically occurs alone (Kranenbarg et al. 2018), it is likely that the anonymous nature of online activities themselves account for insignificance in testing for online engagement in deviant activities. Further, since the way we experience the world is unique to us as individuals, and the value we place on behaviors is also unique, it is not surprising that definitions garnered significant findings, since this element is also one that may be specific to the individual.

Upon examination of other factors, such as level of community engagement and political affiliation, significance was only found for direction of political affiliation. There was no relationship between level of community involvement and engagement in online deviance, meaning that juveniles' level of involvement in their community serves as no indication of their likelihood of engagement in online deviance. When determining a relationship between strength of political affiliation and engagement in online deviance, the results showed that the more participants identified as being conservative, the less likely they were to indicate engagement in online deviance. However, there were some issues with missing data for political affiliation in the survey, which suggests that this

result may not be generalizable across the entire population and should be repeated in further analysis with a larger sample population.

Conclusion

In this study, two elements of Social Learning Theory - imitation and definitions - were significant indicators of engagement in online deviance in middle school. Results from the qualitative analysis supported these findings. Regarding imitation, which allows individuals to learn new behaviors by witnessing and then repeating the behaviors, participants were more likely to engage in online deviance when they had more frequent instances of witnessing the same behaviors. Regarding to definitions, participants commonly noted that continued engagement in online deviance was in part due to perceived understandings or definitions attributed to behaviors that they did not think were deviant. For example, participants who indicated engagement in online deviance amounting to copyright infringement, pirating, or sexting noted their belief that they did not agree that these were deviant behaviors.

While elements of Social Learning Theory, i.e., imitation, and definitions, are found to be significant indicators of engagement in online deviance among this population, several limitations of the study that may have impacted these results. This study included only participants who were accepted to university, which means not only were responses retrospective and reliant on participant's memories of past experiences, but juveniles who were not accepted to university were excluded from the study. In future iterations of this study, the researcher would like to create a longitudinal study to employ

repeated measures while participants are enrolled in middle school, high school, and then college. Such a study would be able to explain indications of engagement in deviance, both online and offline, more thoroughly since retrospective elements would be removed, and the population sample would include participants who did not go to college.

Suggestions for Future Research

Ideally, this study should be replicated with a population sample of students who are currently enrolled in middle school and high school. A longitudinal study would be beneficial to solidify research outcomes. If such a replication of the study would allow for longitudinal follow-up questioning, the researcher could develop a deeper understanding of juvenile engagement in online deviancy, including among those who either do not graduate from high school, or who choose not to attend university. Doing so would provide a more accurate understanding of juvenile engagement in online deviance among adolescents in general, rather than just those who were destined for college, such as those participants included in the current study.

Policy Implications

In the last decade, there have been increased instances of cyber victimization. The effects of such victimization among juveniles have been particularly devastating with the rise in suicidal instances stemming from online victimization among high school aged youth in the U.S. (Schonfeld et al., 2023). While historical explanations of causative factors for such online deviant behaviors have led to increased educational programming

within the K-12 system, there is still a need to better understand the nature of online deviancy among juveniles. Policy implementation seeks to focus on early identification of behaviors (Hendry et al., 2023), and educational programming tries to stem those behaviors (ReachOut, 2023).

This study sought to make connections between online deviant behaviors and traditional explanations for street-level deviancy as seen in the historical scholarship on juvenile deviancy. The results showed that theoretical assumptions about the causes of online deviant behaviors were not as significant as previously understood within the literature, at least, not in this sample. This suggests that juveniles who are on track to attend university have different indicators for engagement in earlier online deviance, specifically, elements of imitation and definitions from Social Learning Theory are more likely to indicate online deviance in this group.

While this study cannot definitively provide policy recommendations for juveniles at the same stage of life course who do not go on to college, it can seek to provide insight into online deviance indications for juveniles who do. Therefore, for juveniles who are likely to attend college, policy or programming that focuses on differential reinforcement, such as Applied Behavior Analysis (ABA) may be beneficial for the reduction of engagement in online deviancy. ABA is used to selectively reinforce desired behaviors and withholding reinforcement for undesired behaviors (Cooper, Heron, & Heward, 2020). Further, since imitation predicts engagement in online deviance, programming to incorporate learning resources and awareness of positive peer attachments and realistic problems with engaging in online deviance, as well as

reinforcement of available punishments for cybercrime, would be ideal in helping to alleviate engagement in such behaviors. While differential reinforcement and imitation were factors shown to only have significance in middle school, such programming would need to be implemented at the middle school level or before, since this is where the behavior originates.

The current study also explored a grounded theory approach to offer depth of understanding of the phenomenon being studied. To that end, qualitative analysis found that the primary causes of continued or increased engagement in online deviancy stem from either a moral stance taken by the juvenile, i.e., the purpose of the deviant behavior is the harm it causes, or from economic necessity, i.e., pirating resources that are otherwise unavailable to the juvenile because of their socio-economic circumstances. Further, results revealed that the primary reasons for stopping engagement in online deviance amounted to: morality, i.e., realizing the act was wrong; maturity, i.e., simply growing up and growing out of childish behaviors, or economic changes, i.e., the juvenile no longer feeling the need to engage in such behaviors as pirating because they became able to afford to pay for the legal download services.

As a result of the study, I seek to apply alternative policy solutions, outside of traditional behavioral sanctioning, to advance current educational policy at the K-12 grade level that would be relevant to current juvenile attitudes about online deviance in a way that will decrease instances of online deviancy and victimization. I believe it is essential to remove most of the behavioral sanctioning and reintroduce a K-12 policy approach that would engage juveniles at a younger age with resources to allow them to

build characteristics of self-control and a strong understanding of the importance of positive social learning. Based on this study, that would also mean applying programs aimed at building on Attachment Theory in a way that focuses on middle school for positive peer attachments and high school for strong school attachments.

By refocusing policy and programmatic efforts towards the appropriate level based on what we know from the results of this study, the likelihood of a decrease in online deviance and subsequent victimization becomes a sustainable goal. Further, by understanding the causes behind engaging, and continuing to engage, in such behaviors online allows us to further educate juveniles on the impact of cyber deviance and to re-introduce ethical approaches to behavior.

APPENDIX

A. Survey Instrumentation

Dissertation Survey Project Master

Start of Block: Demographic Information

Q1.1 The following section will ask basic demographic questions:

Page Break

Q1.2 Gender Identification

- o Male (1)
- o Female (2)
- o Self-Identify (3) _____
- o Prefer not to say (4)

Q1.3 Age Range

- o 18 - 24 (2)
- o 25 - 34 (3)
- o 35 - 44 (4)
- o 45 - 54 (5)
- o 55 - 64 (6)
- o 65+ (7)

Q1.4 How would you describe your ethnicity?

_____

Q1.5 Highest Education Level Achieved

- o Some High School (1)
- o High School (2)
- o Bachelor's Degree (3)
- o Master's Degree (4)
- o Ph.D. or Higher (5)
- o Trade School (6)
- o Prefer not to say (7)

Q1.6 Marital Status

- o Single (1)
- o Married (2)
- o Other (3)
- o Prefer not to say (4)

Q1.7 Annual Household Income

- o Less than $25,000 (1)
- o $25,000 - $50,000 (2)
- o $50,000 - $100,000 (3)
- o Over $100,000 (4)
- o Prefer not to say (5)

Q1.8 Does your family qualify for governmental assistance programs?

- o Yes (1)
- o No (2)
- o Unknown (3)

Q1.9 Current Employment Status

- o Employed Full-Time (1)
- o Employed Part-Time (2)

- Student (3)
- Seeking Opportunities (4)
- Retired (5)
- Other (6)

Q1.10 How would you describe your living status?

- Privately Renting (1)
- Student Housing on-Campus (2)
- Student Housing off-Campus (3)
- Homeowner (4)
- Living with Parents (5)
- Other/ Prefer not to say (6)

Q1.11 How would you describe your political view?

- Very Liberal (1)
- Slightly Liberal (2)
- Neutral (3)
- Slightly Conservative (4)
- Very Conservative (5)
- None/ Non-political (6)
- Prefer not to say (7)

Q1.12 What is the highest level of education obtained by maternal caregiver?

- Did not graduate high-school (1)
- High-School Graduate (2)
- Some College (3)
- College Graduate (4)
- Completed Professional or Post-Graduate Study (5)
- Unknown (6)

Q1.13 What is the highest level of education obtained by paternal caregiver?

- o Did not graduate high-school (1)
- o High-School Graduate (2)
- o Some College (3)
- o College Degree (4)
- o Completed Professional or Post-Graduate Study (5)
- o Unknown (6)

End of Block: Demographic Information

Start of Block: General Feelings

Q2.1 The following section will ask you to reflect on behaviors and attitudes relating to you, your family, school or work:

Page Break

Q2.2 I would describe myself as a thrill-seeker (e.g. driving fast, skydiving, bungee-jumping, theme park rides)

- o Strongly Agree (1)
- o Agree (6)
- o Neutral (7)
- o Disagree (8)
- o Strongly Disagree (9)

Q2.3 I would describe myself as enjoying risk-seeking or sensation-seeking behaviors behaviors (e.g. unprotected sex, sexting, binge-drinking, drug use, dangerous driving, trespassing, vandalism, fighting, truancy)

- o Strongly Agree (1)
- o Agree (2)
- o Neutral (3)
- o Disagree (4)
- o Strongly Disagree (5)

Q2.4 I get bored easily

- o Strongly Agree (1)
- o Agree (2)
- o Neutral (3)
- o Disagree (4)
- o Strongly Disagree (5)

Q2.5 Do you feel connected to your school?

- o Not at all (1)
- o Somewhat (2)
- o Very much (3)
- o Unknown (4)
- o Not Applicable/ Do not attend school (5)

Q2.6 Do you feel connected to your work?

- o Not at all (1)
- o Somewhat (2)
- o Very much (3)
- o Unknown (4)
- o Not Applicable/ Do not work (5)

Q2.7 When enrolled in high-school, what was your average GPA?

- o < 1.0 (1)
- o 1.1 - 2.0 (2)
- o 2.1 - 3.0 (4)
- o 3.1 - 4.0 (5)

Q2.8 I believe that rules are positive

- o Strongly Agree (1)
- o Agree (2)
- o Neutral (3)
- o Disagree (4)

- Strongly Disagree (5)

Q2.9 My peer group engages in deviant behaviors (e.g. underage drinking, damage to property, littering, drug use, fighting, truancy, trespassing, vandalism)

- Strongly Agree (1)
- Agree (2)
- Neutral (3)
- Disagree (4)
- Strongly Disagree (5)

Q2.10 I am engaged in my community (e.g. attend church, sports club, other group activities outside of school)?

- Strong Agree (1)
- Agree (2)
- Neutral (3)
- Disagree (4)
- Strongly Disagree (5)

Q2.11 I am satisfied with my school experience overall

- Strongly Agree (1)
- Agree (2)
- Neutral (3)
- Disagree (4)
- Strongly Disagree (5)

Q2.12 I have positive family attachments (i.e. you get on well with your family and feel connected)

- Strongly Agree (1)
- Agree (2)
- Neutral (3)
- Disagree (4)
- Strongly Disagree (5)

Q2.13 Do you spend more time with your peer group or your family?

- o Peer Group (1)
- o Family (2)
- o Neither/ Prefer to be alone (3)

End of Block: General Feelings

Start of Block: Attitudes Towards Online Behaviors

Q3.1 The following section will ask your feelings and attitudes towards online behaviors:

Page Break

Q3.2 How acceptable is trolling?

- o Completely Acceptable (1)
- o Somewhat Acceptable (2)
- o Neither Acceptable/ Unacceptable (3)
- o Somewhat Unacceptable (4)
- o Completely Unacceptable (5)

Q3.3 How acceptable is cyberbullying/ cyber-harassment?

- o Completely Acceptable (1)
- o Somewhat Acceptable (2)
- o Neither Acceptable/ Unacceptable (3)
- o Somewhat Unacceptable (4)
- o Completely Unacceptable (5)

Q3.4 How acceptable is sharing posts online that target specific groups or individuals?

- o Completely Acceptable (1)
- o Somewhat Acceptable (2)
- o Neither Acceptable/ Unacceptable (3)

- o Somewhat Unacceptable (4)
- o Completely Unacceptable (5)

Q3.5 How acceptable is sexting or online sexual deviance (not including minors)?

- o Completely Acceptable (1)
- o Somewhat Acceptable (2)
- o Neither Acceptable/ Unacceptable (3)
- o Somewhat Unacceptable (4)
- o Completely Unacceptable (5)

Q3.6 How acceptable is social media spamming?

- o Completely Acceptable (1)
- o Somewhat Acceptable (2)
- o Neither Acceptable/ Unacceptable (3)
- o Somewhat Unacceptable (4)
- o Completely Unacceptable (5)

Q3.7 How acceptable is sharing hateful posts or extreme ideologies online?

- o Completely Acceptable (1)
- o Somewhat Acceptable (2)
- o Neither Acceptable/ Unacceptable (3)
- o Somewhat Unacceptable (4)
- o Completely Unacceptable (5)

Q3.8 How acceptable is downloading content without permission, such as music movies or other media?

- o Completely Acceptable (1)
- o Somewhat Acceptable (2)
- o Neither Acceptable/ Unacceptable (3)
- o Somewhat Unacceptable (4)
- o Completely Unacceptable (5)

Q3.9 How acceptable is flaming (sharing hurtful/angry content in general)?

- o Completely Acceptable (1)
- o Somewhat Acceptable (2)
- o Neither Acceptable/ Unacceptable (3)
- o Somewhat Unacceptable (4)
- o Completely Unacceptable (5)

Q3.10 How acceptable is using the internet to cheat on a test?

- o Completely Acceptable (1)
- o Somewhat Acceptable (2)
- o Neither Acceptable/ Unacceptable (3)
- o Somewhat Unacceptable (4)
- o Completely Unacceptable (5)

Q3.11 What sort of behavior online do you believe should be restricted or made illegal?

- o Trolling (1)
- o Cyberbullying/ Cyberharassment (2)
- o Sharing posts targeting specific groups or individuals (3)
- o Sexting/ Online Sexual Deviance (not including minors) (4)
- o Social Spamming (5)
- o Sharing hateful posts or extreme ideologies (6)
- o Streaming content illegally/ Pirating (7)
- o Flaming - posting hurtful or angry content (8)
- o Using the internet to cheat on a test (9)
- o Using company internet for non-company use (10)
- o None - all are acceptable (11)

End of Block: Attitudes Towards Online Behaviors

Start of Block: Behavior Ranking

Q4.1 The following section will ask you to rank behaviors related to online deviancy:

Page Break

Q4.2 Please rank the following types of online deviance in the order you consider most severe (1) to least severe (13)
_____ Cyberbullying (1)
_____ Cyberharrassment (2)
_____ Sharing posts designed to target individuals or groups negatively/ Negative user behavior (3)
_____ Online Radicalization (4)
_____ Online Sexual Deviance/ Sexting (5)
_____ Cyber Dating Abuse (6)
_____ Social Spamming (7)
_____ Problematic Usage of Social Media (8)
_____ Using company internet during work-hours for private purposes (9)
_____ Pirating/ Streaming content illegally (10)
_____ Trolling (11)
_____ Using the internet to cheat on a test (12)
_____ Flaming - Posting personal insults, vulgarity or angry words (13)

Q4.3 Please rank these forms of cyber crime in the order you consider are most severe (1) to least severe
_____ Email Fraud/ Phishing (1)
_____ Social Media Fraud (2)
_____ Banking Fraud/ Theft of financial or card data (3)
_____ Ransomware Attacks/ Cyber-Extortion (4)
_____ Cyber Espionage/ Theft - accessing government or company data illegally (5)
_____ Identity Theft (6)
_____ Spyware (7)
_____ Malware attacks - viruses, trojan, worms etc. (8)
_____ Denial of Service attack - disruption of network services (9)
_____ General Hacking (10)
_____ Cryptojacking - hacking to mine cryptocurrency (11)
_____ Copyright Infringement (12)
_____ Illegal Gambling (13)
_____ Sale of illegal/ stolen items online (14)
_____ Soliciting, producing or possessing child pornography (15)

End of Block: Behavior Ranking

Start of Block: Online Experience

Q5.1 The following section will ask you to identify experiences you have had with online deviancy:

Page Break

Q5.2 How often have you witnessed online deviance?

- o Never (1)
- o Sometimes (2)
- o Frequently (3)
- o Always (5)

Q5.3 If you have witnessed online deviance, did you know the people involved?

- o Yes - knew person engaging in behavior (1)
- o Yes - knew the target of the behavior (2)
- o Yes - knew both the person engaging in, and targeted by, the behavior (3)
- o No (4)
- o Prefer not to say (5)

Q5.4 If you knew the people involved, how did you know them?

- o I didn't know them (1)
- o School/ College (2)
- o Friend Group (3)
- o Work Colleague (4)
- o Family Member (5)
- o Other (6)

Q5.5 If you have experienced online deviance, can you tell us about your experiences?

_____

Q5.6 How often have you been targeted by online deviance?

- o Never (1)
- o Sometimes (2)
- o Frequently (3)
- o Always (5)

Q5.7 Have you ever engaged in any of these online behaviors?

- ☐ Trolling (2)
- ☐ Sharing malicious posts directed at a group or individual (3)
- ☐ Cyber-bullying (4)
- ☐ Identity theft (5)
- ☐ Pretending to be someone else (6)
- ☐ Cyber-harassment (7)
- ☐ Negative or hurtful user behaviors intended to cause harm to a group or individual (8)
- ☐ Online radicalization (9)
- ☐ Online sexting (10)
- ☐ Sharing nude images of others without consent (11)
- ☐ Cyber dating abuse (12)
- ☐ Social Media spamming (13)
- ☐ Using company internet for non-company work (14)
- ☐ Streaming content/ pirating/ copyright infringement (15)
- ☐ Copyright Infringement - downloading media (1)
- ☐ Using the internet to cheat on a test (16)
- ☐ Flaming - posting personal insults, vulgarity or angry words (17)

Q5.8 How often have you engaged in these behaviors?

- o Never (1)
- o Sometimes (2)
- o Frequently (3)
- o Always (5)

Q5.9 If you have ever engaged in online deviance, can you tell us about your experiences?

_____

Q5.10 What impact has cyber deviance had on you?

_____

Q5.11 Please rank the following methods to combat cyber deviance, from what you believe to be most desired (1) to least desired (6)

_____ Online monitoring by Companies (1)
_____ Online monitoring by Government Agencies (2)
_____ No action - cyber deviance is not an issue (3)
_____ No action - cyber deviance is legal and should be protected behavior (4)
_____ Cyber Deviance Laws/ Criminalization (5)
_____ Education/ Awareness Programs in School (6)

Q5.12 What measures, if any, do you think should be taken to combat online deviance behaviors?

_____

End of Block: Online Experience

Start of Block: Offline Experience

Q6.1 The following section will ask about your experiences with street-level, or offline, deviance

Q6.2 Have you ever engaged in any of the following offline behaviors?

- o Curfew Violation (1)
- o Ungovernable Behaviors - going beyond the control of parents, guardians or custodians (2)
- o Running away - leaving the custody of parents or guardians without permission (3)
- o Truancy - Violation of a compulsory school attendance law (4)
- o Underage drinking (5)
- o Use of illegal substances/ drugs (6)

- o Bullying (7)
- o Trespassing (8)
- o Theft (9)
- o Vandalism (10)
- o Loitering (12)
- o Other (11) _____
- o None (13)

Q6.3 How often have you engaged in those offline behaviors?

- o Never (1)
- o Sometimes (2)
- o Frequently (3)
- o Always (4)

Q6.4 How often have you witnessed offline deviant behaviors?

- o Never (1)
- o Sometimes (2)
- o Frequently (3)
- o Always (4)

Q6.5 If you have witnessed offline deviant behaviors, did you know the people involved?

- o Yes - knew the person engaging in behavior (1)
- o Yes - knew the target of the behavior (2)
- o Yes - knew both the person engaging in the behavior and person being targeted (3)
- o No (4)
- o Prefer not to say (5)

Q6.6 If you knew the people involved, how did you know them?

- o I didn't know them (1)
- o School/ College (2)
- o Friend Group (3)
- o Work Colleague (4)

- o Family Member (5)
- o Other (6) _____

Q6.7 How often have you been targeted by offline deviant behaviors?

- o Never (1)
- o Sometimes (2)
- o Frequently (3)
- o Always (4)

Q6.8 If you have experienced offline deviancy, can you tell us about your experiences?

_____

End of Block: Offline Experience

Start of Block: Engagement Ending Behaviors

Q7.1 The following section will be completed if you selected that you have been engaged in online deviancy behaviors, and will ask you if your behaviors have changed:

Page Break

Q7.2 If you were ever engaged in pirating, streaming content illegally or copyright infringement, did you stop engaging in the behavior?

- o Yes- completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No- stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)
- o Not applicable (6)

Q7.3 If you were ever engaged in social media spamming, did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)

- o No - stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)
- o Not applicable (6)

Q7.4 If you were ever engaged in cyber bulling, did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No - stayed the same (4)
- o No - increased frequency of engagement (5)
- o Prefer not to say (3)
- o Not applicable (6)

Q7.5 If you were ever engaged in cyber harassment, did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No - stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)
- o Not applicable (6)

Q7.6 If you were ever engaged in using the internet to cheat on a test, did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No - stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)
- o Not applicable (6)

Q7.7 If you were ever engaged in sharing targeted and malicious posts, did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No - stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)
- o Not applicable (6)

Q7.8 If you were ever engaged in trolling, did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No - stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)
- o Not applicable (6)

Q7.9 If you were ever engaged in online radicalization, did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No- stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)
- o Not applicable (6)

Q7.10 If you were ever engaged in sexting, did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No - stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)
- o Not applicable (6)

Q7.11 If you were ever engaged in sharing of nude images that did not belong to you, did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No - stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)
- o Not applicable (6)

Q7.12 If you were ever engaged in identity theft, or pretending to be someone else, did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No - stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)
- o Not applicable (6)

Q7.13 If you were ever engaged in flaming (posting personal insults, vulgarity or angry words), did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No - stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)
- o Not applicable (6)

Q7.14 If you were ever engaged in cyber dating abuse, did you stop engaging in the behavior?

- o Yes - completely stopped engagement (1)
- o Somewhat - decreased frequency of engagement (2)
- o No - stayed the same (3)
- o No - increased frequency of engagement (4)
- o Prefer not to say (5)

o Not applicable (6)

Q7.15 If you were ever engaged in using company internet for non-company use, did you stop engaging in the behavior?

o Yes - completely stopped engagement (1)

o Somewhat - decreased frequency of engagement (2)

o No - stayed the same (3)

o No - increased frequency of engagement (4)

o Prefer not to say (5)

o Not applicable (6)

Q7.16 What do you think leads people to engage in cyber deviance?

o Peer Pressure (4)

o They think it's fun/ funny (5)

o Boredom (6)

o Revenge (7)

o Financial Motivation (9)

o Other (8) _____

Q7.17 If you decreased, or stopped, your engagement in online deviance, why?

_____

Q7.18 If you increased your engagement in online deviance, why?

_____

End of Block: Engagement Ending Behaviors

Start of Block: Follow-up

Q8.1 If you would like to be involved in a follow-up study, please provide contact information below. This is entirely optional and information will remain confidential.

_____

End of Block: Follow-up

B. Recruitment Poster

C. Quantitative Coding Scheme

KEY ENGAGEMENT QUESTIONS

2.2 - MSFE - Middle School Friend Engagement
2.3 - HSFE - High School Friend Engagement
4.5 - HSENG - High School Engagement
5.5 - MSENG - Middle School Engagement
6.2 - HSOE - High School Offline Experience
7.2 - MSOF - Middle School Offline Frequency

1.1-1.3 - **SELF CONTROL / ATTACHMENTS** (Read statements, rate level of agreement)

1.2.1: APARTHINK - I care a lot what my parents think of me
1.2.2: APARRESP - If I lost the respect of my parents, I would be very upset
1.2.3: APROFTHINK - What my professors think of me matters to me
1.2.4: AFRIRESP - It's important that my friends respect me
1.2.5: APARTALK - I feel I can talk to my parents about most things
1.2.6: SCRULEFOL - I believe rules are positive and should be followed
1.2.7: APROFRESP - I respect professors
1.2.8: APARVAL - I value parent opinions
1.2.9: AFRIHURT - It would bother me to hurt friends feelings
1.2.10: APARUPSET - I would be upset if I let my parents down
1.2.11: APROFDISAP - If my professor was disappointed in me, I'd be disappointed in myself
1.2.12: PARRESP - Parent respect means a lot to me
1.2.13: FRIRESP - Friend opinions of me mean a lot to me
1.2.14: PARREL - I have a close relationship with parents that I wouldn't want to ruin
1.2.15: PROFLIKE - I like most of my professors
1.2.16: PARLIFE - My parents know what's happening in my life
1.2.17: FAMFRI - I spend more time with family than friends
1.2.18: PARADMIRE - I have great admiration for my parents
1.2.19: PARTRUST - My parents trust me
1.2.20: FRIFAM - I spend more time with friends than family
1.3.1: SCACT - I act without stopping to think
1.3.2: SCNOFUT - I don't think about preparing for the future
1.3.3: SCMOMENT - I do what brings pleasure here and now, even at the cost of a distant goal
1.3.4: SCSHORTT - I'm more concerned about what happens to me in the short run than long run
1.3.5: SCDIFPROJ - I avoid projects I know will be difficult

1.3.6: SCQUIT - I quit or withdraw when things get complicated
1.3.7: SCEASYP - The things in life that are easiest bring the most pleasure
1.3.8: SCHARD - I dislike hard tasks that stretch my abilities to the limit
1.3.9: SCRISKT - I like to test myself by doing something a little risky
1.3.10: SCRISK - Sometimes I take risks for the fun of it
1.3.11: SCEXCI - I sometimes find it exciting to do things I might get in trouble for
1.3.12: SCADVENT - Excitement and adventure are more important than security
1.3.13: SCPHYS - I would rather do something physical than mental
1.3.14: SCMOVE - I feel better on the move than sitting and thinking
1.3.15: SCDO - I like to get out and do things more than I like to read or contemplate ideas
1.3.16: SCSELF - I look out for myself first, even if it makes things difficult for others
1.3.17: SCNOSYMP - I'm not sympathetic to other people when they are having problems
1.3.18: SCPROB - If things I do upset people, it's their problem not mine
1.3.19: SCWANT - I will try to get the things I want even if it causes problems for others
1.3.20: SCTEMPER - I lose my temper easily
1.3.21: SCHURT - When I am angry at people I feel more like hurting them than talking to them
1.3.22: SCSTAY - When I'm angry, people stay away from me
1.3.23: SCNOTALK - When I have a disagreement it's hard for me to talk

2.1-2.4 - **SOCIAL LEARNING** (rating based on friends behavior [2=MS, 3=HS, 4=attitudes])

2.2.1: SLFRINOHS - How many of your friends have engaged in cyber-deviance
2.2.2: SLPASSHS - how many of your friends have guessed another's password to access their computer
2.2.3: SLCOMPHS - accessed another computer account without knowledge or permission
2.2.4: SLALTERHS - added, deleted, changed, or printed information in another's computer files without knowledge or permission
2.2.5: SLPIRATEHS - knowingly use, make, or give another person a pirated copy of commercially sold computer software
2.2.6: SLDISTRHS - knowingly use, make, or give pirated media to another person
2.2.7: SLPRNHS - look at pornographic or obscene material
2.2.8: SLCHEATHS - have obtained a paper or essay they did not write to submit as their own
2.3.1: SLFRINOMS - How many of your friends have engaged in cyber-deviance
2.3.2: SLPASSMS - how many of your friends have guessed another's password to access their computer

2.3.3: SLCOMPMS - accessed another computer account without knowledge or permission
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2.3.5: SLPIRATEMS - knowingly use, make, or give another person a pirated copy of commercially sold computer software
2.3.6: SLDISTRMS - knowingly use, make, or give pirated media to another person
2.3.7: SLPRNMS - look at pornographic or obscene material
2.3.8: SLCHEATMS - have obtained a paper or essay they did not write to submit as their own
2.4.1: SLRESOURCE - it is important people know what they can and cannot do with computer resources at work or school
2.4.2: SLRULES - there are clear rules on what is acceptable, ethical, behavior online
2.4.3: SLSECURE - If people don't want me to access their computer they should have better security
2.4.4: SLRIGHTS - I should be able to look at any computer information that the government, school, business or individual has on me even if they don't give access
2.4.5: SLPROTECT - I would never turn in a friend who pirated software or media
2.4.6: SLPROACC - I would never turn in a friend who accessed another's computer without permission
2.4.7: SLNOACC - Compared with other illegal acts, gaining unauthorized access to a computer is not very serious
2.4.8: SLNOCYB - Compared with other illegal acts, forms of cyberbullying and harassment are not very serious
2.4.9: SLCOPIES - I see nothing wrong in giving copies of pirated materials to foster friendships

3.1 - 3.3 - **BEHAVIOR ACCEPTABILITY** (scale of acceptability)

3.2.1: BABULLY - How acceptable is cyber bullying
3.2.2: BAHARASS - how acceptable is cyber harassment
3.2.3: BATARGET - how acceptable is sharing posts designed to target groups or individuals negatively
3.2.4: BARADIC - how acceptable is online radicalization
3.2.5: BASEXT - how acceptable is online sexual deviance and sexting
3.2.6: BADATE - how acceptable is cyber dating abuse
3.2.7: BASPAM - how acceptable is social spamming
3.2.8: BASOCIAL - how acceptable is problematic usage of social media
3.2.9: BACOMPANY - how acceptable is using company internet for non-company use
3.2.10: BAPIRATE - how acceptable is pirating/ streaming content illegally
3.2.11: BATROLL - how acceptable is trolling
3.2.12: BACHEAT - how acceptable is using the internet to cheat on a test

3.2.13: BAFLAME - how acceptable is flaming (posting personal insults, vulgarity or angry words)
3.2.14: BAGLOAT - how acceptable is cybergloating
3.3.1: BAPHISH - how acceptable is email fraud or phishing
3.3.2: BAFRAUD - how acceptable is social media fraud
3.3.3: BABANK - How acceptable is banking fraud or theft of financial or card data
3.3.4: BARANSOM - how acceptable are ransomware attacks or cyber-extortion
3.3.5: BAESP - how acceptable is cyber espionage or theft
3.3.6: BAID - how acceptable is identity theft
3.3.7: BASPY - how acceptable is spyware
3.3.8: BAMAL - how acceptable are malware attacks
3.3.9: BADOS - how acceptable are denial of service attacks
3.3.10: BAHACK - how acceptable is general hacking
3.3.11: BACRYPT - how acceptable is cryptojacking
3.3.12: BACOPY - how acceptable is copyright infringement
3.3.13: BAGAMB - how acceptable is illegal gambling
3.3.14: BASTOLE - how acceptable is the sale of illegal or stolen items
3.3.15: BAPRN - how acceptable is solicitation, production or possession of child pornography

4.1-4.8 - **HIGH SCHOOL ONLINE EXPERIENCES** (frequency scale)

4.2: HSOEWIT - how often have you witnessed online deviance in HS
4.4: HSOETAR - how often have you been targeted by online deviance in HS
4.6: HSOEENG - How often have you engaged in these behaviors in HS

5.1-5.8 - **MIDDLE SCHOOL ONLINE EXPERIENCES** (frequency scale)

5.2: MSOEWIT - how often have you witnessed online deviance in MS
5.4: MSOETAR - how often have you been targeted by online deviance in MS
5.6: MSOEENG - How often have you engaged in these behaviors in MS

6.1-6.6 - **HIGH SCHOOL OFFLINE EXPERIENCES** (frequency scale)

6.3: HOFFENG - How often have you engaged in offline deviant behaviors in HS
6.4: HOFFWIT - How often have you witnessed offline deviant behaviors in HS
6.5: HOFFTAR - How often have you been targeted by offline deviant behaviors in HS

7.1-7.6 - **MIDDLE SCHOOL OFFLINE EXPERIENCES** (frequency scale)

7.3: MOFFENG - How often have you engaged in offline deviant behaviors in MS
7.4: MOFFWIT - How often have you witnessed offline deviant behaviors in MS
7.5: MOFFTAR - How often have you been targeted by offline deviant behaviors in MS

8.1-8.6 - **ENGAGEMENT ENDING REASONING** (time-frame matrix)

8.2.1: HENDPIRATE - pirating, streaming content illegally, copyright infringement in HS
8.2.2: HENDSPAM - social media spamming in HS
8.2.3: HENDBULLY - cyber-bullying in HS
8.2.4: HENDHARASS - cyber-harassment in HS
8.2.5: HENDCHEAT - using the internet to cheat on a test in HS
8.2.6: HENDMAL - sharing targeted or malicious posts online in HS
8.2.7: HENDTROLL - Trolling in HS
8.2.8: HENDRAD - online radicalization in HS
8.2.9: HENDSEXT - sexting/ sharing nude images in HS
8.2.10: HENDPRET - pretending to be someone else in HS
8.2.11: HENDFLAME - flaming in HS
8.2.12: HENDDATE - cyber dating abuse in HS
8.3.1: MENDPIRATE - pirating, streaming content illegally, copyright infringement in MS
8.3.2: MENDSPAM - social media spamming in MS
8.3.3: MENDBULLY - cyber-bullying in MS
8.3.4: MENDHARASS - cyber-harassment in MS
8.3.5: MENDCHEAT - using the internet to cheat on a test in MS
8.3.6: MENDMAL - sharing targeted or malicious posts online in MS
8.3.7: MENDTROLL - Trolling in MS
8.3.8: MENDRAD - online radicalization in MS
8.3.9: MENDSEXT - sexting/ sharing nude images in MS
8.3.10: MENDPRET - pretending to be someone else in HS
8.3.11: MENDFLAME - Flaming in MS
8.3.12: MENDDATE - cyber dating abuse in MS

9.1-9.9 - **DEMOGRAPHICS**

9.2: GEN - Gender Identification
9.4: INC - Family Household Income
9.5: EMPLOY - Are you employed
9.6: POL - Political View
9.7: MATED - Highest level of maternal education
9.8: PATED - Highest level of paternal education

9.9: COMMINV - Community involvement

D. Qualitative Coding Scheme

Theme	***In Vivo Quote***
Economic	“I got more streaming services”
	“Piracy is cheaper”
	“...to gain access to materials that would be difficult to access in certain locations”
	“We didn’t have the money to pay to use stream services”
	“I have more of my own resources now”
	“I stopped once I got a job and had the money to pay for services”
	“It is sometimes necessary to pirate media for school if it is otherwise unavailable”
	“I didn’t have a job and my family weren’t financially stable”
	“Shows I wanted weren’t available on the streaming service I could afford”
	“I started expensive online hobbies that I couldn’t afford software for”
	“The website I used got shut down”
	“I needed to do it once my family became financially unstable”
Moral	“I stopped because I knew it was bad”
	“I did not know some things were deviant then”
	“It is morally wrong”
	“I want to earn my grades”
	“Regret”
	“I learned it was wrong”
	“I wanted to be better”

Social	“Peer pressure”
	“Only happened among friends for comedic purposes”
	“Light trolling is funny in a group”
	“I saw the damage it did to family and friends”
Maturation	“I matured during highschool”
	“I grew up. It wasn’t funny anymore”
	“I grew up”
	“I realized cheating won’t help you”
	“Matured and regretted the things I’ve done”
	“I matured and realized affects of it”
	“I grew up and realized it was childish and immature”
	“I realized it was serious”
	“Lack of care and maturity”
Consequence	“Worrying about the possibilities of what could happen”
	“...severe consequences for cheating so I never engaged”
	“The risk wasn’t worth the reward”
	“I wasn’t getting into trouble so I thought it was fine”
	“I realized cheating will hurt your grade”
	“The online world is risky for personal information”
	“Scared of larger consequences”
	“I thought continued behavior would affect my future success or bar me from employment”
	“I realized how awful it would be to get caught”
	“Increased risk of viruses”
	“I became more aware of consequences”

	“I didn’t need to cheat on tests anymore and was scared of getting caught”
	“I was educated on the consequences of pirating”
Behavioral	“...fell out of watching anime”
	“Haven’t done that in a while”
	“I just wanted attention as a kid and was bored”
	“My anxiety increased when I cheated”
	“Stopped habit”
	“...teen hormones and addiction”
	“Did it once and felt bad”
	“I found enjoyment in it”
	“Got bored of it”
	“No longer had time”
	“Have better things to do”
	“I became increasingly disillusioned with big corporations”
	“I see nothing wrong with pirating”
	“More responsibility and less time to be bored”
	“Found other things to spend my time doing”
	“It felt rebellious”
	“It wasn’t worth my time anymore”
	“It doesn’t seem like a big deal”
	“Stopped because I do not take part in those things anymore”
	“Ease of use”
	“Lonely and insecure”
	“...increased engagement because I needed something”

	“Piracy is more convenient than the alternative”
	“I felt I needed to cheat on certain tests so I would not fail”
	“I didn’t see anything wrong with pirating movies”
	“It has benefitted me and hasn’t harmed anyone”
	“It was funny, the stuff we did was never harmful”
	“Increased pirating because I had more free time”
	“...cause a little bit of trolling every now and then is funny”

E. Gender Matrix

	Survey Respondents	Survey Sample Percentage	General Population	General Population Percentage
Male	188	33.75%	1883	41.9%
Female	352	63.02%	2615	58.1%
Other/ Non-Binary	18	3.23%	0	0%

F. Race Matrix

	Survey Sample	Survey Sample Percentage	General Population	General Population Percentage
White	429	77.68%	3249	72.2%

Black or African American	36	8.05%	249	5.5%
American Indian or Alaska Native	2	1.68%	10	0.2%
Asian	29	7.05%	119	2.6%
Native Hawaiian and other Pacific Islander	1	0.67%	3	0.1%
Two or more races	35	0.66%	211	4.7%

G Deviance Type Table

Deviance Type	*Online or Offline*	*Middle School*	*High School*
Pirating, illegally streaming content, or copyright infringement	Online	50	63
Social Media Spamming	Online	12	21
Cyber-Bullying	Online	16	13
Cyber-Harassment	Online	5	8
Using the internet to cheat	Online	49	111
Sharing targeted or malicious posts	Online	11	16
Trolling	Online	61	90

Online Radicalization	Online	4	4
Sexting/ Sharing nude images	Online	5	64
Pretending to be someone else	Online	13	20
Flaming	Online	15	31
Cyber dating abuse	Online	3	7
Curfew Violation	Offline	44	216
Ungovernable behaviors	Offline	31	80
Running away	Offline	6	14
Truancy	Offline	3	21
Underage drinking	Offline	15	151
Use of illegal substances/ drug taking	Offline	4	66
Bullying	Offline	15	19
Trespassing	Offline	13	61
Theft	Offline	5	19
Vandalism	Offline	8	15
Loitering	Offline	4	21

H. Self-Control Matrix

Self- Control Criteria	*Total Sample Mean Average Response*
I act without stopping to think	3.30
I don't think about preparing for the future	4.03
I do what brings pleasure here and now, even at the cost of a distant goal	3.47
I'm more concerned about what happens to me in the short run than long run	3.71
I avoid projects I know will be difficult	3.42
I quit or withdraw when things get complicated	3.71
The things in life that are easiest bring the most pleasure	3.40
I dislike hard tasks that stretch my abilities to the limit	3.71
I like to test myself by doing something a little risky	2.31
Sometimes I take risks for the fun of it	2.68
I sometimes find it exciting to do things I might get in trouble for	3.39
Excitement and adventure are more important than security	3.43
I would rather do something physical than mental	3.00
I feel better on the move than sitting and thinking	2.39
I like to get out and do things more than I like to read or contemplate ideas	2.48
I look out for myself first, even if it makes things difficult for others	3.36
I'm not sympathetic to other people when they are having problems	4.04
If things I do upset people, it's their problem not mine	3.92

I will try to get the things I want even if it causes problems for others	4.92
I lose my temper easily	3.68
When I am angry at people I feel more like hurting them than talking to them	4.00
When I'm angry, people stay away from me	3.77
When I have a disagreement it's hard for me to talk	3.26

I. Parental Attachment Matrix

Parental Attachment Criteria	*Mean Average Response*
I care a lot what my parents think of me	1.59
If I lost the respect of my parents, I would be very upset	1.00
I feel I can talk to my parents about most things	2.32
I value parent opinions	2.00
I would be upset if I let my parents down	1.70
Parent respect means a lot to me	1.60
I have a close relationship with parents that I wouldn't want to ruin	2.03
My parents know what's happening in my life	2.22
I spend more time with family than friends	2.80
I have great admiration for my parents	1.90
My parents trust me	1.70

J. School Attachment Matrix

School Attachment Criteria	*Mean Average Response*
What my professors think of me matters to me	1.81
I respect professors	1.66
If my professor was disappointed in me, I'd be disappointed in myself	1.81
I like most of my professors	2.01

K. Peer Attachment Matrix

Friend/ Peer Attachment Criteria	*Mean Average Response*
It's important that my friends respect me	1.57
It would bother me to hurt friends feelings	1.50
Friend opinions of me mean a lot to me	1.63
I spend more time with friends than family	2.8

L. Social Learning Matrix

Social Learning Criteria	*High School Average Response*	*Middle School Average Response*
How many of your friends have engaged in cyber-deviance	2.70	2.51
how many of your friends have guessed another's password to access their computer	1.92	1.92
How many of your friends accessed another computer account without knowledge or permission	1.85	1.86

How many of your friends added, deleted, changed, or printed information in another's computer files without knowledge or permission	1.72	1.76
How many of your friends knowingly use, make, or give another person a pirated copy of commercially sold computer software	1.72	1.82
How many of your friends knowingly use, make, or give pirated media to another person	1.98	2.20
How many of your friends look at pornographic or obscene material	2.84	3.06
How many of your friends have obtained a paper or essay they did not write to submit as their own	2.05	2.24

M. Social Learning Attitude Table

Social Learning Attitude Criteria	*Average Response Score*
It is important people know what they can and cannot do with computer resources at work or school	1.61
There are clear rules on what is acceptable, ethical, behavior online	2.01
If people don't want me to access their computer they should have better security	3.61
I should be able to look at any computer information that the government, school, business or individual has on me even if they don't give access	3.21
I would never turn in a friend who pirated software or media	2.57
I would never turn in a friend who accessed another's computer without permission	3.22
Compared with other illegal acts, gaining unauthorized access to a computer is not very serious	3.51
Compared with other illegal acts, forms of cyberbullying and harassment are not very serious	3.99

I see nothing wrong in giving copies of pirated materials to foster friendships	3.76

N. Behavior Acceptability Table

Deviant Behavior Criteria	*Average Response Score*
How acceptable is cyber bullying	1.75
How acceptable is cyber harassment	1.60
How acceptable is sharing posts designed to target groups or individuals negatively	1.74
How acceptable is online radicalization	1.77
How acceptable is online sexual deviance and sexting	2.34
How acceptable is cyber dating abuse	1.57
How acceptable is social spamming	2.58
How acceptable is problematic usage of social media	2.22
How acceptable is using company internet for non-company use	3.25
How acceptable is pirating/ streaming content	2.82
How acceptable is trolling	2.79
How acceptable is using the internet to cheat on a test	2.18
How acceptable is flaming (posting personal insults, vulgarity or angry words)	2.16

O. Cybercrime Acceptability Table

Illegal Behavior Criteria	*Average Response Score*
How acceptable is email fraud or phishing	1.67

How acceptable is social media fraud	1.79
How acceptable is banking fraud or theft of financial or card data	1.57
How acceptable are ransomware attacks or cyber-extortion	1.24
How acceptable is cyber espionage or theft	1.24
How acceptable is identity theft	1.16
How acceptable is spyware	1.30
How acceptable are malware attacks	1.29
How acceptable are denial of service attacks	1.48
How acceptable is general hacking	1.56
How acceptable is cryptojacking	1.42
How acceptable is copyright infringement	1.92
How acceptable is illegal gambling	2.05
How acceptable is the sale of illegal or stolen items	1.46
How acceptable is solicitation, production or possession of child pornography	1.12

P. Experience Matrix

	Middle School Online Experience	High School Online Experience	Middle School Offline Experience	High School Offline Experience
Witnessed Behavior	1.48	2.00	1.69	2.37
Target of Behavior	1.19	1.24	1.71	1.30
Engaged in Behavior	1.24	1.46	1.43	1.52

Q. Frequency Table

	Total Number Engaged	Stopped During HS	Decreased During HS	Same After HS	Increased During HS	Stopped After HS
Pirating/ Streaming/ Copyright Infringement	160	20	39	45	50	5
Social Media Spamming	51	14	15	12	6	4
Cyber-bullying	35	5	14	5	5	6
Cyber-harassment	22	2	8	5	4	3
Using Internet to cheat	150	29	35	19	50	18
Sharing targeted or malicious posts	24	10	6	4	2	2
Trolling	75	13	34	16	4	8
Online Radicalization	20	5	6	3	3	2
Sexting/ Sharing nude images	80	18	14	15	29	4
Pretending to be someone else	22	9	8	3	1	1
Flaming	41	11	19	5	4	2
Cyber-dating abuse	14	5	3	4	0	2

R. Frequency Chart

Behavior Type	*Most likely progression*
Pirating/ Streaming/ Copyright Infringement	Increase during high school
Social Media Spamming	Decrease during high school
Cyber-bullying	Decrease during high school
Cyber-harassment	Decrease during high school
Using Internet to cheat	Increase during high school
Sharing targeted or malicious posts	Stop during high school
Trolling	Decrease during high school
Online Radicalization	Decrease during high school
Sexting/ Sharing nude images	Increase during high school
Pretending to be someone else	Stop during high school
Flaming	Decrease during high school
Cyber-dating abuse	Stop during high school

S. Engagement Table

	Total Number Engaged	Stopped During MS	Decreased During MS	Same After MS	Increased During MS	Stopped After MS
Pirating/ Streaming/ Copyright Infringement	94	35	42	0	10	7
Social Media Spamming	19	3	8	0	4	4
Cyber-bullying	16	7	3	0	3	3

Cyber-harassment	17	6	3	0	3	5
Using Internet to cheat	65	20	30	0	5	10
Sharing targeted or malicious posts	19	5	5	0	4	5
Trolling	36	13	12	0	5	6
Online Radicalization	11	3	4	0	1	3
Sexting/ Sharing nude images	33	7	20	0	2	3
Pretending to be someone else	14	3	5	0	4	2
Flaming	14	5	7	0	2	0
Cyber-dating abuse	10	3	4	0	3	0

T. Behavior Progression Table

Behavior Type	*Most likely progression*
Pirating/ Streaming/ Copyright Infringement	Decreased during middle school
Social Media Spamming	Decreased during middle school
Cyber-bullying	Stopped during middle school
Cyber-harassment	Stopped during middle school
Using Internet to cheat	Decreased during middle school
Sharing targeted or malicious posts	Equally increased and decreased during middle school
Trolling	Stopped during middle school
Online Radicalization	Decreased during middle school

Sexting/ Sharing nude images	Decreased during middle school
Pretending to be someone else	Decreased during middle school
Flaming	Decreased during middle school
Cyber-dating abuse	Decreased during middle school

U. Qualitative Thematic Table

Theme	***In Vivo Quote***
Economic	“I got more streaming services”
	“Piracy is cheaper”
	“...to gain access to materials that would be difficult to access in certain locations”
	“We didn’t have the money to pay to use stream services”
	“I have more of my own resources now”
	“I stopped once I got a job and had the money to pay for services”
	“It is sometimes necessary to pirate media for school if it is otherwise unavailable”
	“I didn’t have a job and my family weren’t financially stable”
	“Shows I wanted weren’t available on the streaming service I could afford”
	“I started expensive online hobbies that I couldn’t afford software for”
	“The website I used got shut down”
	“I needed to do it once my family became financially unstable”
Moral	“I stopped because I knew it was bad”
	“I did not know some things were deviant then”
	“It is morally wrong”
	“I want to earn my grades”

	“Regret”
	“I learned it was wrong”
	“I wanted to be better”
Social	“Peer pressure”
	“Only happened among friends for comedic purposes”
	“Light trolling is funny in a group”
	“I saw the damage it did to family and friends”
Maturation	“I matured during high school”
	“I grew up. It wasn’t funny anymore”
	“I grew up”
	“I realized cheating won’t help you”
	“Matured and regretted the things I’ve done”
	“I matured and realized affects of it”
	“I grew up and realized it was childish and immature”
	“I realized it was serious”
	“Lack of care and maturity”
Consequence	“Worrying about the possibilities of what could happen”
	“...severe consequences for cheating so I never engaged”
	“The risk wasn’t worth the reward”
	“I wasn’t getting into trouble so I thought it was fine”
	“I realized cheating will hurt your grade”
	“The online world is risky for personal information”
	“Scared of larger consequences”
	“I thought continued behavior would affect my future success or bar me from employment”

	“I realized how awful it would be to get caught”
	“Increased risk of viruses”
	“I became more aware of consequences”
	“I didn’t need to cheat on tests anymore and was scared of getting caught”
	“I was educated on the consequences of pirating”
Behavioral	“...fell out of watching anime”
	“Haven’t done that in a while”
	“I just wanted attention as a kid and was bored”
	“My anxiety increased when I cheated”
	“Stopped habit”
	“...teen hormones and addiction”
	“Did it once and felt bad”
	“I found enjoyment in it”
	“Got bored of it”
	“No longer had time”
	“Have better things to do”
	“I became increasingly disillusioned with big corporations”
	“I see nothing wrong with pirating”
	“More responsibility and less time to be bored”
	“Found other things to spend my time doing”
	“It felt rebellious”
	“It wasn’t worth my time anymore”
	“It doesn’t seem like a big deal”
	“Stopped because I do not take part in those things anymore”

	“Ease of use”
	“Lonely and insecure”
	“...increased engagement because I needed something”
	“Piracy is more convenient than the alternative”
	“I felt I needed to cheat on certain tests so I would not fail”
	“I didn’t see anything wrong with pirating movies”
	“It has benefitted me and hasn’t harmed anyone”
	“It was funny, the stuff we did was never harmful”
	“Increased pirating because I had more free time”
	“...cause a little bit of trolling every now and then is funny”

V. Goodness-of-fit & Variance Inflation Factor Table

	DV1	**DV2**	**DV3**	**DV4**
	VIF	*VIF*	*VIF*	*VIF*
Independent Variables				
Social Learning Middle School Score	3.57	3.567	3.567	3.567
Social Learning High School Score	3.51	3.515	3.515	3.515
Family/ Parental Attachment Score	1.31	1.31	1.31	1.31
School Attachment Score	1.54	1.548	1.548	1.548
Peer Attachment Score	1.25	1.249	1.249	1.249
Self-Control Score	1.02	1.016	1.016	1.016
Control Variables				
Gender	1.02	1.019	1.019	1.019
Race	1.01	1.01	1.01	1.01
Political Affiliation	1.01	1.014	1.014	1.014
Community Involvement	1.02	1.018	1.018	1.018
Nagelkerke R square	0.028	0.011	0.019	0.004
Hosmer-Lemeshow	0.357	0.728	0.671	0.608

n 766 *in all models*

W. Social Learning Component Matrix

Component	Code	Survey Question
Differential Association	2.2_2	Rated behaviors based on peer group engagement in high school
	2.2_3	Rated behaviors based on peer group engagement in middle school
Imitation	4.2	Rated statements based on witnessing deviant behaviors in high school
	4.6	Rated statements based on engaging in behaviors after witnessing behaviors in high school
	5.2	Rated statements based on witnessing deviant behaviors in middle school
	5.6	Rated statements based on engaging in behaviors after witnessing behaviors in middle school
Definitions	2.4_1	Rated statements based on belief in online rules
	2.4_2	Rated statements based on belief in online rule acceptability
	2.4_3	Rated statements based on specific opinions or attitudes to online behavior
	2.4_4	Rated statements based on specific opinions or attitudes to online behavior
	2.4_5	Rated statements based on moral feelings of friend behaviors online
	2.4_6	Rated statements based on moral feelings of friend behaviors online
	2.4_7	Rated statements based on specific opinions or attitudes to online behavior
	2.4_8	Rated statements based on specific opinions or attitudes to online behavior
	2.4_9	Rated statements based on specific opinions or attitudes to online behavior
Differential Reinforcement	1.3_3	Rated behaviors based on immediate rewards at the cost of distant goals
	1.3_11	Rated behaviors based on anticipation of wanted punishments
	1.3_19	Rated behaviors based on specific rewards at the cost of hurting others

X. Social Learning Component Correlation Table

	Differential Association	Imitation	Differential Reinforcement	Definitions	Low Self-Control	Online HS	Online MS	Offline HS	Offline MS	Gender	Race	Politics
Differential Association	1											
Imitation	-0.015	1										
Differential Reinforcement	-0.039	-0.037	1									
Definitions	-0.032	0.006	0.351	1								
Low Self-Control	-0.073	-0.06	0.148	0.06	1							
Online HS	-0.058	-0.005	0.034	0.122	0.069	1						
Online MS	0.015	-0.008	-0.095	-0.119	0.012	-0.274	1					
Offline HS	0.02	-0.01	-0.107	-0.032	-0.011	-0.137	0.357	1				
Offline MS	0.009	-0.021	-0.075	-0.016	0.001	-0.092	0.262	0.391	1			
Gender	0.029	0.021	-0.02	-0.004	-0.036	0.063	0.074	0.026	0.023	1		
Race	0.005	-0.037	0.013	0.045	-0.012	-0.014	-0.004	-0.102	0.004	0.037	1	
Politics	0.068	0.017	-0.045	-0.04	0.059	0.025	0.005	-0.021	0.003	0.009	0.064	1

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