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Peer Influence and Social Networking Websites: Applying Differential Association and Social Learning Theories to Online Interaction

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PEER INFLUENCE AND SOCIAL NETWORKING WEBSITES: APPLYING DIFFERENTIAL ASSOCIATION AND SOCIAL LEARNING THEORIES TO ONLINE INTERACTION

by

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Dedication

I would like to dedicate this thesis to my parents, Donald and Glenda McCuddy. Their unwavering support through thick and thin has taught me that it is never too late to have hope; that with hard work and perseverance, anything is possible.

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ABSTRACT

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Differential association and social learning theories explain how individuals learn deviant behavior through traditional in-person social interaction. Online social networking has paved the way for the younger generation to interact with their peer group using a distinctly different method. The purpose of this research is to take an exploratory approach in examining the relationship between online interaction and personal behavior. The current study examined 583 University of Memphis undergraduate students' self-reported personal deviant behavior, as well as the deviant behavior found within their online social networks. Results support the hypothesis that exposure to deviant behavior on online social networks is a predictor of personal deviant behavior. Moderating variables were introduced via multivariate analyses and were found to affect the strength of the relationship between the two sets of behaviors.

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Chapter 1

Introduction

In the twenty-first century there has been a shift in the medium through which many individuals interact with their peers. Previous research has provided evidence that people adapt their behavior to that of their most intimate peer groups. However, online social networking has paved the way for people to interact with a larger peer group through a distinctly different method. This takes multiple forms, ranging from online social networking sites (SNSs) to chat rooms, blogs, and forums. Young individuals are no longer affected only by those who attend the same school or live in the same neighborhood. While interaction via computer is no replacement for intimate peer groups, some individuals have begun to substitute in-person communication with online interaction. Research has yet to focus on how this new form of interaction affects behavior, or specifically, which behaviors may be learned through this interaction. The purpose of the current study is to examine the relationship between online social networking among young adults and deviant behavior.

Online social networking has seen dramatic growth in recent years (Lenhart & Madden, 2007). These websites "allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system" (Boyd & Ellison, 2007, p. 211). The term "social networking site" is often synonymous with social media. Online social media commonly refers to blogs and social networking websites (Lariscy, Avery, Sweetser, & Howes, 2009). Websites that focus on some form of media are still considered online social networking if users communicate with each other. Therefore, most websites traditionally associated with

media, such as YouTube, are also classified as social networking (Ahn, Han, Kwak, Moon, & Jeong, 2007). For the purposes of this study, online social networking will include these forms of online social media.

Although there are a multitude of online social networking websites, Facebook has become by far the most popular. As of December 31, 2012, there were 1.06 billion active users with an average of 618 million daily users (Facebook, 2013). Given the population estimate of 2012, one out of seven people in the world has an active Facebook account (U.S. Census Bureau, 2013). Over 350 million photos are uploaded to Facebook each day and 240 billion photos have been shared on the website. Twitter, another popular SNS, is used by approximately 15% of adults in the United States and around 8% access the site on a typical day. This site has seen significant growth within the past couple of years, especially for those between the ages of 18 and 24. In 2010, this age group comprised 16% of Twitter users. By 2012, this percentage grew to 31% of active users (Smith & Brenner, 2012).

Young adults are of particular interest when analyzing online social networking. As of 2011, those from ages 18 to 24 made up approximately 49% of Facebook users (Holt, 2013). Future generations that grow up using online social networking from a very early age will soon become predominate in this age group. While research on SNSs exists, most was conducted during the years when websites such as Facebook and Twitter were in early stages of popularity. Attitudes and patterns of usage were common topics (Acquisti & Gross, 2006; Daniel, 2002; & Joinson, 2008). Deviant behavior has yet to be a topic of interest among researchers of online social networking, and past research concerning use of computers only focused on crime and deviancy that occur within an

online environment. The current study takes a unique approach by analyzing the relationship between offline deviant behavior and online exposure.

Chapter 2

Theoretical Framework

Differential association and social learning theories derive from the work of Edward Sutherland and Ronald Akers. Sutherland's theory of differential association provides explanation of the mechanisms through which individuals learn deviant behavior by social interaction. Nine principles provide a framework for the theory (Sutherland & Cressey, 1974). The final form of this theory was established in 1947, and little revision has taken place over the years. Ronald Akers later expanded upon differential association with his theory of social learning. Originally titled "differential association-reinforcement theory," social learning theory incorporates the components of operant (voluntary response) and respondent (involuntary response) conditioning (Akers, 1998; Burgess & Akers, 1966). According to Akers, people neither learn to be "all deviant" nor "all conformist" but strike a balance between the opposing poles of behavior. People learn to evaluate their own behavior through their interactions with significant others and groups. Akers maintains that his theory does not contradict any principles of differential association; rather, it is a revision that integrates all components and expands by accounting for additional variables. Therefore, differential association and social learning work together to explain the effect of social interaction on deviant behavior (Akers, 1998).

Differential Association

Sutherland's original theory outlined differential association in seven principles that incorporated structure and process. The final form, which appeared in the 1947 edition of his *Principles of Criminology*, eliminated the structural component to create a

purely processual theory that integrates elements of differential social organization to explain how certain associations are developed and how these interactions affect variations in group rates of crime (Burgess & Akers, 1966; Sutherland & Cressey, 1974). This final version outlines differential association in nine principles.

The first principle specifies that criminal behavior is learned. This means that criminal behavior is not inherent within the individual, and eliminates other hereditary, human nature, and innovation explanations (Brown, Esbensen, & Geis, 2007; Sutherland & Cressey, 1974). Learning deviant behavior is a developmental process, and does not require any predisposition. The second principle states that criminal behavior is learned in interaction with other persons in a process of communication. One cannot become deviant by simply living in a criminogenic environment; rather, crime can only occur with the help of others. It is also important to note that both verbal communication and gestures are considered to have an influence. The third principle maintains that the primary part of the learning of criminal behavior occurs within intimate personal groups. This appears to discredit the impact of some forms of media, such as newspapers and movies. However, later formulations of social learning theory have suggested these forms have an effect through reactions of peer group pressure. When it appears as though these forms have an effect, it can be attributed to reaction of this pressure (Siegel, 2001).

The fourth principle explains that when criminal behavior is learned, the learning includes techniques of committing the crime and the specific direction of motives, drives, rationalizations, and attitudes. The techniques learned can be simple or complex. The latter part of this principle accounts not only for the learning of methods for committing crime, but how criminals approach committing crime (Sutherland & Cressey, 1974). The

fifth principle builds from this by stating that people learn the specific direction of motives and drives from definitions of the legal codes as favorable or unfavorable. This introduces the idea that individuals experience a different situational context that can conflict with their culture. This concept, known as culture conflict, originates from contact with others who hold a view different from the majority in a culture. Some might be exposed to those who favor violation of legal codes over those who believe rules and codes should be observed.

The sixth principle, recognized as the "heart" of differential association, posits that a person becomes delinquent because of an excess of definitions favorable to violation of law, over definitions unfavorable to violation of the law. It is important to note that it is not just habitual contact with definitions favorable to law violation that leads to deviancy. Criminal behavior is learned because of isolation from definitions favorable to law observance. Therefore, neutral definitions cannot be ignored, as those who participate in neutral behavior are not exposed to law violation. The seventh principle argues that differential association may vary in frequency, duration, priority, and intensity. This means that all associations do not carry the same weight. Frequency refers to the amount of exposure, and duration involves the time period. Priority is often associated with age of exposure, whereas intensity is related to importance and prestige of peers. The eighth principle states that the process of learning criminal behavior by association with criminal and anti-criminal patterns involves all of the mechanisms that are involved in any other learning. This means that the learning of criminal behavior is not restricted to just imitation. For example, one does not learn to read by merely imitating or being exposed to reading, one must be exposed to a process. The final

principle specifies that while criminal behavior is an expression of general needs and values, it is not explained by those needs and values, since non-criminal behavior also expresses those same needs and values. Together, the aforementioned principles form differential association, as postulated by Edward Sutherland.

Social Learning Theory

In 1966, Burgess and Akers revised Sutherland's original theory to integrate other explanatory variables. Their social learning theory, also known as differential association-reinforcement theory, modifies the original nine principles, and adds behavioral concepts and propositions. These revised statements are as follows: (1) Criminal behavior is learned according to the principles of operant conditioning; (2) Criminal behavior is learned both in non-social situations that are reinforcing or discriminative, and through social interaction in which the behavior of other persons is reinforcing or discriminative for criminal behavior; (3) The principal part of the learning of criminal behavior occurs in those groups which compose an individual's major source of reinforcement; (4) The learning of criminal behavior, including specific techniques, attitudes, and avoidance procedures, is a function of the effective and available reinforcers, and the existing reinforcement contingencies; (5) The specific class of behaviors which are learned and their frequency of occurrence are a function of the reinforcers that are effective and available, and the rules or norms by which these reinforcers are applied; (6) Criminal behavior is a function of norms which are discriminative for criminal behavior, the learning of which takes place when such behavior is more highly reinforced than noncriminal behavior; and (7) The strength of

criminal behavior is a direct function of the amount, frequency, and probability of its reinforcement (Burgess & Akers, 1966).

The first statement in the revised seven principles identifies a unique feature of social learning theory. Operant conditioning is behavior that is "mediated primarily by the central nervous system and involves the large striated muscles, as contrasted with respondent behavior, which is controlled primarily by the automatic nervous system and involves the smooth muscles" (Akers, 1977, p.43). In other words, operant behavior is voluntary and respondent behavior is not. Effects, outcomes, or consequences of one's environment determine the form and rate of operant behavior, which is a primary principle of social learning theory.

Akers further identified four key elements that shape behavior: differential association, definitions, differential reinforcement, and imitation (Akers, 1998). Differential association is explained through the principles established by Sutherland, which state that differential association is the process by which individuals are exposed to definitions favorable or unfavorable to law-violating or law-abiding behavior. Akers supported Sutherland's claim that these interactions would occur within personal groups, not through media outlets.

Definitions relate to one's attitude in the context of orientations, rationalizations, definitions of the situation, and other evaluative aspects. Two types of definitions are identified in this theory: general and specific. General definitions refer to beliefs that can be religious, moral, or other conventional values and norms that are favorable to conforming behavior. Specific definitions relate to a particular act or series of acts (Akers, 1998). An example could be one who generally agrees with the concept of legal

order but disagrees with specific rules, such as regulating victimless crimes (Brown et al., 2007). It is within this concept that Akers developed the criminal "neutralizing definitions," which are thought to justify criminal behavior. These include denial of responsibility, denial of injury, denial of victim, appeal to higher loyalties, and condemnation of condemners (Sykes & Matza, 1957).

Differential reinforcement compares deviant behavior and conformist behavior. When the former becomes dominant over the latter, differential reinforcement has taken place. This can occur when there are similar acts and both are rewarded, but one is rewarded to a higher extent. Reinforcement is affected by the frequency, intensity, priority, and duration of differential reinforcement. The importance of reinforcement stems from the notion that if one is rewarded for a behavior, one will be motivated to continue performing it. Positive reinforcement refers to something that is added to one's environment. This can take the form of a pleasant, desirable, or enjoyable event after an action has taken place. Conversely, negative reinforcement involves removing an element or introducing negative stimuli to the environment. If one can avoid painful or unpleasant stimuli by engaging in an activity, one will be more likely to perform such behavior. This concept is termed escape-avoidance behavior. Both positive and negative reinforcement can explain increased rates of behavior (Akers, 1977).

Groups can further influence behavior as a source of imitation. Several factors determine whether or not one will mimic others' behavior, including characteristics of both parties. Evidence has suggested that the primary group is not the only source of imitation, as television and other media can provide a means of learning normative definitions, which can have an effect on deviant behavior (Strayer, Wareing, & Rushton,

1979). After the initial behavior is established, imitation fails to explain the maintenance of behavior.

Differential association and social learning theories work together to explain the complexities of how individuals learn deviant behavior. While it was initially hypothesized that media had little effect on learned behavior, modern online social networking has combined media with personal groups. Individuals no longer associate solely with those who comprise their school or work environment. Online communities make up a considerable portion of one's social interaction to the extent that online groups may be substituted for intimate peer groups. The current research will attempt to analyze literature regarding online social networking and deviant behavior to determine if individuals have begun to replace their intimate peer groups with networking websites, and if these online groups have the same effect on deviant behavior.

Chapter 3

Literature Review

Media Effects

Differential association and social learning theory often discredit the influence of media on behavior. While this may have been true during the time period in which the theories were developed, current research has offered substantial support to the claim that media have multiple effects on individuals. These effects are especially evident when examining aggression and desensitization. In looking at the impact of online social media, it is imperative to understand the effects of other media forms, as the applicability of existing theories is limited.

Studies have shown that aggression is a common behavioral response when viewing violent forms of media. This behavior can take on many forms including becoming hostile, frustrated, destructive, or making verbal or physical attacks on someone (Bartholow & Anderson, 2001; Huesmann, Eron, Klein, Brice, & Fischer, 1983; Phillips, 1983; Zillman & Weaver, 2006). Some studies have accounted for additional variables, such as psychiatric disorders, and demonstrated that the addition of this variable does not affect the relationship between media and aggression (Johnson, Cohen, Smailes, Kasen, & Brook, 2002). This is important in establishing causation by expanding upon previous studies, which are only able to show a correlation between these variables. Zillman and Weaver (2006) found that prolonged exposure to violence in films precipitated the escalation of hostile behavior in provoked individuals. In the same study, those individuals who were treated neutrally initiated hostile behavior after viewing the violent films, which shows that exposure matters more than the overall

experience. Bushman and Huesmann (2006) showed that media have both short-term and long-term effects. Specifically, children were more likely to experience long-term effects. This finding strengthens the claim that children learn and adapt their behavior even after exposure has ended.

Media can also influence individuals through desensitization. Repeated exposure, especially to violence, can result in one becoming nonreactive and nonresponsive to observations that take place in real life. This effect takes place both emotionally and physiologically. Carnagey, Anderson, and Bushman (2007) examined heart rate and galvanic skin responses in participants who played a violent video game and then watched a video of extreme interpersonal violence. Those who played the video games had lower levels of response than the control group who was just exposed to the violent video. Other studies have shown that this desensitization can begin in very young children. Drabman and Thomas (1974) studied third and fourth grade students who were exposed to a violent video and then led to believe they were responsible for supervising children who were younger than themselves. The younger children eventually started to fight which resulted in the destruction of a camera. The experimental group who watched a violent video first took longer to report the altercation to adults, illustrating that they had become accustomed to the display of violent behavior.

Presentation of Information

In order to understand the role of online social media on deviant behavior, one must first analyze how individuals interpret information that is received from these websites. Acquisti and Gross (2006) found that around 78% percent of the information provided on social networking websites reflects accurate information. This study

examined information that participants claimed they revealed on websites, in comparison to what researchers were able to view. In regards to frequency of behavior, eight percent revealed more than they claimed they did, meaning they reported information was not present when in fact it was. This contrasts to eleven percent of respondents who revealed less information than they claimed to reveal. Self-reported measures demonstrated that almost two percent knowingly provided wrong information on social networking websites (Acquisti & Gross, 2006).

It is important to understand whether users of social media websites interpret information as truthful. The principles of differential association are concerned with how people learn behavior, directions, motives, and techniques. It can be assumed that these aspects must also be legitimate representations of reality. If it is common practice for individuals to post wrong information, others' behavior may be less affected, as there is a possibility viewable information is not accurate. Given the low percentage of users who admit to posting false information, most participants on these websites believe they are viewing accurate information. Thus, it is more likely they will learn from the actions of their online group.

Substituting Offline Groups with Online Social Networks

When examining the effects of online social interaction, it is important that users believe this interaction is a substitute for in-person communication. Before the onset of online social networking, it was discovered that users agree the principles that apply to face-to-face contact mirror that of electronic methods (McKenna, 1998). It was also found that these two worlds interact with one another, in that the lack of belonging to a group in real life can lead one to seek out a replacement online. Certain groups of people

with concealable identities, such as former inmates and those with extreme sexual or political views, have difficulty identifying others who have similar interests. Thus, they seek others and communities online. In order for the elements of differential association and social learning theories to be applicable to online networks, users of these websites must believe the interaction with their online community is a substitute for real in-person interaction.

Acar (2008) examined how online social groups differ from real life social networks, and determined that the online groups are significantly larger. In his study of undergraduates at a northeastern college, Acar assessed how the variables of anxiety, self-esteem, extroversion, and gender influence online social interaction. He found that anxiety was not affected by online social networking, and the major determinant of the size of the network and time spent on such websites were extroversion, followed by gender. Also, it was revealed that the higher the level of self-esteem, the lower the percentage of strangers one will have in the online social group. Subrahmayam, Reich, Waechter, and Espinoza (2008) also studied college students, and found that individuals used social networking sites to maintain existing relationships instead of finding new ones. They wrote comments and instant messaged the same people they interacted with in the real world. The authors concluded there were few differences between the online and offline communities within which college students interact. However, they did note that individuals' levels of interaction differ in online and offline groups. Although these groups of people consisted of the same individuals, the rate of interaction was not the same.

Additionally, researchers have noted a trend of online social networking users becoming more private. Research by Dey, Jelveh, and Ross (2012) analyzed 1.4 million Facebook profiles and discovered that in early 2010, 17.2% of users hid their friend list as compared with 52.6% who hid them fifteen months later. In this same time period, 12.3% initially had private profiles compared to 33% in mid-2011. It was also revealed that women and younger adults were the most private users. One of the major factors identified with influencing users' decisions to become more private is the increased media attention on Facebook. This increase in privacy creates more intimate social groups within these networks. One may limit the exposure of personal deviant behavior if one believes there is an outside audience that will have access to this information. A sense of privacy allows for the creation of a more realistic environment in which to socialize. Additionally, Acquisi and Gross (2006) noted that for some individuals the benefit of disclosing information to a stranger might outweigh the perceived costs of possible privacy invasion.

As online social networks grow, the quality of interaction among users must also be questioned. Wellman and Gulia (1999) identified that personal networks consisted of only three to six close and intimate ties, five to 15 close but still significant ties, and around a thousand more distant acquaintances. Donath and Boyd (2004) hypothesized that online communication will not increase the number of strong, intimate ties; rather, the weak and distant acquaintances will increase substantially. They argue this will allow for greater exposure of information, but will not substitute for close, personal groups.

The distinction between offline and online groups has become much finer over recent years, especially considering cultural differences. In a study that compared how

young people from the United Kingdom, Spain, and Japan identified with online and offline groups, Lehdonvirta and Rasanen (2010) noted that participants identified as strongly with their online communities as with their own families. Moreover, this identification was stronger with online hobby groups, in comparison with ones that were offline. Participants from the UK and Japan differed slightly in that their online groups provided a more socio-demographically inclusive source of identification, although there were no gender differences in these countries. Conversely, males from Spain were more likely than females to experience strong bonds with both online and offline groups. It is important to note that the gender differences were the same with these regions' samples. The research of Lehdonvira and Rasanen adds strength to previous findings through inclusion of cultural differences. Within the past decade, Facebook and Myspace are often regarded as the primary social networking websites. Both of these sites originated within the United States. It has been shown that the shift in social interaction is not a unique phenomenon experienced only by those within this country. This supports the applicability of the social learning theories demonstrating that individuals, regardless of their background or heritage, are affected the same way. This research also shows how some groups, such as those formed for the purpose of hobby activities, will identify more strongly with those in an online community than in-person. As a result, one's behavior is more affected by online social networking.

There are multiple reasons why individuals use social media websites. Joinson (2008) examined the gratifications users derive from the use of Facebook. Seven unique motives were identified: social connection, sharing identities, examining content, social investigation, social networking surfing, and status updating. It was found that these uses

and gratifications varied with patterns of usage. Social connection led to an increase in frequency of use, and content gratification resulted in spending more time on the website. Most respondents reported that keeping in touch, social surveillance, re-acquiring lost contacts, and communication were the primary reasons they used Facebook. This could allow for an increase in the frequency and duration of exposure to deviant behavior within intimate peer groups. For example, an individual may associate with a group of delinquent youth while in high school. After graduation, he or she may move off to college, find new friends, and subsequently cease the deviant behavior. However, with the advent of online social networking, this same person can now maintain relationships with those deviant peers throughout his or her life, despite potential geographic limitations.

There are several benefits to replacing in-person interaction with online interaction. Regarding Facebook usage, Ellison, Steinfield, and Lampe (2007) reported evidence to support that using this website leads to psychological well-being, in addition to benefitting those with low self-esteem and low life satisfaction. It was also found that Facebook allows for the maintenance of relationships from one offline community to another. Those friendships that were established in high school could be maintained, and in some cases strengthened, over the years where traditionally these relationships would deteriorate. This especially holds true for those individuals who move off to college and are no longer able to have in-person interaction with their friends on a frequent basis (Ellison et al., 2007).

Reinforcing Extreme Behaviors

Certain types of extreme behaviors, such as hate groups, sexual deviants, or self-harm groups, can be reinforced through online social media. Due to the various detrimental effects participation in such groups would have on one's daily life, the Internet serves as a setting where these views can be expressed and reinforced anonymously. Exposure to such sites allows for motives, techniques, and rationalization of hate-inspired violence (Hawdon, 2012). These groups often target vulnerable "lone wolves" who venture online to find companionship (McDonald, Hortsmann, Strom, & Pope, 2009). Benefits of online interaction for hate groups include cheap recruitment, control over group image, credibility and respectability of groups' causes, some anonymity, and a fruitful avenue for recruitment given that those who frequent such sites are usually lonely. The research of McDonald et al. also examined two other types of groups affected by online networking: sexual deviants and self-harm groups. Extreme sexual deviancy is often associated with pedophilia. Online networking allows for individuals to share images, locate victims, and maintain networks with similar individuals. The versatility, speed, and visual medium of the Internet allows for this behavior to be strengthened. Self-harm groups, such as anorexics, bulimics, and cutters, are influenced by online networking through reinforcement of destructive behaviors. Some websites offer tips and techniques, including how to hide such behaviors from friends and family. According to McDonald et al., past research has shown that those who are depressed are the most likely to surf the Internet, and will therefore be more likely to discover such websites or social networking pages devoted to self-harm.

Those youth who have reported deliberate self-harm are more likely to report risky online behavior.

Virtual communities can also be created that allow for the support of terrorist movements. These environments allow for the interaction on a regular basis to disseminate views, share knowledge, and encourage others to become supportive of movements (Bowman-Grieve, 2009). Previous research has shown that interpersonal bonds and recruitment to terrorist movements center on the construction of peer groups. Bowman-Grieve's analysis of Stormfront, an international and multi-organizational community in support of the radical right movement, showed that social networking played an instrumental role in allowing groups to come together to influence each other and take part in collective action.

Online interaction involves critical elements that can strengthen social bonds more than traditional means of communication. This is especially true for groups that have concealable identities. Given the limitless bounds of the Internet, those with extreme views are able to reach out to like-minded individuals. If these people were bound to their geographic region, they would be unlikely to find those with such views. Again, the sense of anonymity allows for users of these websites to open up. The censorship of authority figures, such as parents or the government, is limited by this horizontal, peer-to-peer interaction. Additionally, this interaction can allow for the strengthening of behavior that might otherwise lie dormant. For example, one who experiences some form of sexual deviancy may keep this behavior private for the duration of his or her life. It is not as if the individual can easily identify another member of the community who is experiencing the same behavior, desire, or emotional turmoil. The Internet allows for such individuals

to find others who are similar. This can affirm and validate their behavior to such a degree that they believe it is socially acceptable. This could also allow them to act on such impulses they would otherwise try to control.

Perceptions of Deviant Behavior

Perceptions play an instrumental role in the discussion of online social media effects. Early research has shown that a majority of students in middle and high school do not perceive their own behavior as deviant when they are using a computer. Conversely, they perceive their friends' behavior as deviant, and believe this behavior is displayed often (Daniel, 2002). This research specifically focused on using the computer for deviant behavior, such as using the Internet for illegal activities. It was revealed that males and students between the ages of 14 and 16 displayed the highest levels of deviancy. Both Hispanic and Asian students had higher rates than Caucasian or African Americans, and those students with poorer academic achievement were the most likely to display deviant behavior.

Some individuals perceive deviant behavior that is displayed in online communities as entertaining. Davis (2002) surveyed online users to determine their reactions when seeing "bad" behavior. Respondents indicated they felt this was part of the lure of the Internet, even comparing deviant behavior to watching a soap opera. However, in the same study, around 56% of respondents reported they avoid accessing certain websites because of previous experiences with displayed deviant behavior, and almost 80% said they have left an online social environment because of inappropriate behavior.

Online social networking can also have an impact on the shaping of definitions in relation to deviancy. Since deviant behavior violates norms, it can help clarify normative behavior (Niemi, 2012). It has been proposed that moderate deviancy through online interaction can have a positive influence by clarifying social rules. Further research will need to be done in this area to clarify how perceptions gained through online social networking influence deviant behaviors.

Limitations of Past Research

A major hindrance of past research is the reliance on outdated information. Currently, Facebook is the most widely used social networking website (Dey et al., 2012). Its popularity has grown tremendously over the past several years. However, it did not exist just ten years ago. The way in which users interact with this website is much different from previous incarnations of social media. A Facebook newsfeed now provides continuous updates of current posts in a friend's network (Joinson, 2008). A large percentage of one's online friends consists of the same individuals who are interacted with in-person on a regular basis. Much research on social media began when Facebook was becoming popular, and cannot account for the effects of this form of online interaction. For example, in 2004, the same year that Facebook was created, Donath and Boyd concluded that online communication would not increase strong and intimate ties. This finding would most likely no longer hold true. Additionally, given the infancy of social media, the choice of website studied could alter results. For example, as late as 2007, multiple studies reported either Friendster, Myspace, or Facebook were primary online social networking websites (Joinson, 2008). As this finding is no longer true,

replications of past research could possibly yield different results based on the type of social networking website being studied.

Chapter 4

Methodology

The previous chapters have explained two important concepts that have yet to be linked together. Sutherland and Akers' social learning theories describe how behavior is learned through communication with intimate peer groups. Recent research on online social networking has revealed the beginning stages of substituting real life interaction with an online group. The online group has also been shown to be a legitimate representation of in-person relationships and to reinforce extreme behaviors. The current study used a sample of 583 University of Memphis undergraduate students to test the relationship between the use of social networking and personal deviant behavior. This chapter will discuss the hypotheses, sample, data collection, variables, and the type of analyses.

Hypotheses

This research attempted to understand the relationship between peer deviance in online social networking and personal deviant behavior, in the hope that future research will be able to expand and examine causation. The hypotheses were as follows: 1) exposure to deviant behavior discussed or displayed on online social networking websites is a predictor of personal deviant behavior; 2) this relationship strengthens with greater frequency of access to the websites; 3) this relationship strengthens as the amount of time social networking websites were accessed increased; 4) the size of the online social group, via friends or subscribers to an online profile, affects the strength of the relationship; and 5) this relationship is stronger for younger respondents.

Sample

A convenience sample of 583 University of Memphis undergraduate students was surveyed for this study. General education classes were targeted for participation, as every student at the University of Memphis is required to take these classes. Initially, Oral Communication and English Literary Heritage classes were chosen since every major requires these classes; thus the students who are enrolled in these classes would be the most representative of all majors and personal backgrounds. Surveys were administered between January and March of 2013.

The targeted sample size was 500 students. This size was chosen because it was large enough to provide a broad range of student characteristics and still be manageable within the time constraints of the researcher. After the first 200 surveys were collected, it was discovered that the demographics were not representative of the University of Memphis. The University's enrollment for the fall of 2011 was 48.56% White, 41.62% African Americans, and 9.82% Other. The initial review of the data revealed approximately 20% of the sample was African American. This is attributed to a unique characteristic of the Literary Heritage course. Although every student must take this class, an African American Literary Heritage section can be taken for this credit. Subsequently, these classes were targeted in order to more closely match the University of Memphis demographic percentage for this race. The final sample was 46.8% White and 40.7% African American, which is clearly representative of the University of Memphis student enrollment.

Of the 583 completed surveys that were obtained, only 570 were subject to analysis, as 12 respondents (0.02%) indicated they do not use social networking websites

and one survey was unusable due to being returned blank. Of those surveyed, 37.2% were males and 62.5% were females, compared to 38.3% male and 61.8% female enrollment for the University of Memphis during the fall of 2011. The mean age was 21.29 years and the mean grade point average was 3.13. The most common majors came from the College of Arts and Sciences (34.4%) followed by the Fogelman College of Business and Economics (16.3%) and the Lowenberg School of Nursing (12.6%) (see Table 1 in Appendix D for a full list of majors).

Data Collection

Professors for these courses were contacted in advance to request permission to devote approximately ten minutes of class time to discussing, administering, and collecting the survey. Prior to handing out the survey, the researcher read a consent document that explained the purpose of the survey and research, the voluntary nature of completing the survey, and the survey's anonymity. A copy of the consent form was also attached to the survey. After completion, students returned the survey to the researcher who documented the number of surveys completed, and then placed the surveys into an envelope that was sealed and safely stored until data entry.

Variables

The dependent variables for this study were a respondent's own reported deviant behaviors that took place over the past two years. The range of two years was developed from interviews with both undergraduate and graduate students at the University of Memphis. Students were given a preliminary survey which was examined after completion. Follow up questions were asked regarding the time reference period. Since the system of using semesters divides time by half-year increments, it was believed

students are able to identify behavior they engaged in within a two-year period. This was the longest period of time students felt comfortable referencing with accuracy.

Three index variables were created: drug related behavior ($\alpha = .77$) which consisted of used marijuana, used hard drugs, took prescription drugs recreationally, bought drugs, and sold drugs; deviant driving ($\alpha = .70$) which consisted of texting while driving, drove faster than the speed limit, and drove while under the influence of drugs or alcohol; and alcohol use ($\alpha = .90$), which consisted of getting drunk and having more than five drinks in one sitting. This latter variable derives from the National Institute on Alcohol Abuse and Alcoholism's definition for binge drinking (NIAAA, 2013). George and Mallery's (2003) scale for determining the appropriate Cronbach's alpha levels when constructing index variables was used for these variables. The scale states that an alpha above .9 is excellent, above .8 is good, and above .7 is acceptable. Thus, those indices below .7 were not used for this analysis, and scales within these variables were not used. Such an instance occurred with the index representing academic misconduct. Three behaviors were believed to represent this index: cheating, plagiarizing, and getting suspended from school. However, the alpha for this index was only .45, and was thus eliminated. The remaining variables for a respondent's personal deviant behavior were stole something less than or equal to $50, stole something more than $50, cheated on an exam, plagiarized a paper, got suspended from school, hit or threatened an intimate partner, started a fight, vandalized property, gambled illegally, carried a weapon, got arrested, set fire to someone's property on purpose, and engaged in high risk sexual behavior. Frequency of these behaviors was categorized using a 5-item Likert scale

ranging from zero to 4. Responses were organized as “never,” “once,” “2-5 times,” “6-9 times,” and “10+ times” with “never” coded as zero and “10+ times” coded as 4.

The primary independent variable for this study was observable peer deviancy that takes place on respondent’s online social network. For the purposes of this study, the term “social networking websites” was defined as websites such as Facebook, Twitter, Reddit, Instagram, YouTube, Pinterest, Flickr, Google+, MySpace, etc. These websites were reported among the most common by students interviewed during development of the survey. The same variables were used to measure online deviant behavior as were used to measure personal deviant behavior, with a few amendments. Two index variables were used: drug related behavior ($\alpha = .85$), and deviant driving ($\alpha = .72$). Theft was a single variable that asked respondents to indicate the general presence of this behavior in the online social network, and alcohol use was not specifically inquired about. Frequency of behavior was measured using the following scale: “never,” “rarely,” “sometimes,” “often,” and “very often” with “never” coded as zero and “very often” coded as 4.

Four control variables were used which were also included as moderating variables to determine the effect on the independent variables. Moderating variables can influence the relationship between two other variables which produces an interaction effect (Vogt, 1993). These variables are frequency of social networking website access, number of minutes social networking websites are used per week, the number of friends or followers a respondent has on his or her online social networking profile, and the age of the respondent. The first of these variables used a 7-item Likert scale for respondents to report how often the websites are accessed. Responses included “less than once a week,” “once a week,” “2-6 times a week,” “once a day” “2-5 times a day,” “6-9 times a

day," and "10+ times a day." This scale was developed from personal interviews with graduate students who attended the University of Memphis. Students were asked about their personal habits regarding frequency of online social networking sites. Their responses were used to build and confirm the current scale.

The second control variable asked respondents how many minutes they spent on social networking websites during a typical week. This question was kept open ended to account for the large range of temporal differences. The question originally asked respondents to report how many hours are spent on the networking site; however, responses were coded into minutes due to the large number of answers that were in-between hours as well as those that indicated a specific number of minutes below one hour. Responses ranged from 0 minutes to 6,000 minutes ($\mu = 481.09$). Several respondents recorded answers such as "too many to count," "all day everyday," or "very few." To account for these, the variable for minutes was recoded as a categorical variable based on 10^{th} percentiles. Quartiles were assessed to determine if this would be an appropriate measure to categorize the variable. The four quartiles would have created intervals for the categories at 120, 300, and 600 minutes. Given the range was 0 to 6,000 minutes, having the largest category encompass such a low range was deemed unacceptable. The new variable included the following categories of minutes: "0-60," "61-120," "121-150," "151-180," "181-300," "301-390," "391-510," "511-720," "721-1200," "1201-6000." The first category, "0-60," was coded as zero and the last category, "1201-6000," was coded as nine. Those respondents who indicated a large number of minutes, such as "too many to count" were coded as nine, while those who indicated a small number of minutes, such as "very few" were coded as zero.

The third control variable asked respondents to report the number of friends or followers on their social networking profile. This variable was also left open ended to account for those responses that might exceed the anticipated range. Responses for this variable ranged from 0 to 6,000 ($\mu = 686.23$). Similar to the issue with the number of hours that websites were accessed, some respondents reported a nonnumeric answer to the question inquiring about friends or followers. This included answers such as "thousands," "a lot," and "not many." The variable for number of friends or followers was also recoded based on the 10^{th} percentiles, which included the following categories: "0-100," "101-200," "201-282," "283-323," "324-460," "461-600," "601-800," "801-1000," "1001-1500," "1501-6000." Those respondents who indicated a lower number of friends, such as "not many," were coded as zero, while those who reported a high number, such as "numerous," were coded as 9. Quartiles were also examined for this variable. For similar reasons to the recoding of minutes, using 10^{th} percentiles was viewed as more appropriate to capture the wide range of responses. The final control variable was age, which was kept continuous.

Three additional variables related to social networking websites were included. Two of these relate to situations that might make people hesitant to post information involving deviant behavior on websites. The first question asked, "Do your parents have access or subscribe to your online social networking profile?" The second asked, "Have you ever been hesitant to post information due to your current job or potential future employment?" The final variable related to social networking websites originally consisted of separate variables which asked the top three websites that are used most often to access a social networking profile. This was kept open ended to allow for a wide

range of responses and a total of 38 different SNSs were reported. The first variable which represented those SNSs that were used most often was recoded into four categories in which the first three responses encompass 92.3% of the sample. Facebook was the most widely used social networking website (52.1%) followed by Instagram (22.4%) and Twitter (17.7%). The remaining 7.7% was coded into Other (see Table 2 in Appendix D for a full list of the social networking websites).

Several demographic variables were included in the survey. Respondents were asked to record their gender, age, race/ethnicity, Hispanic origin, classification based on hours of coursework completed, current grade point average (GPA), and major of study. GPA was recoded based on the University of Memphis advising system. The first category was "0-1.99," followed by "2.0-2.49," "2.5-2.99," "3.0-3.49," and "3.5-4.0." The first category was coded as zero and the last was coded as 4. The variable "race" included Caucasian, African American, Native American, Asian, and Other. Given that examining race is beyond the scope of the current study, all other races besides Caucasian and African American were coded as Other. The first two categories, which constitute 90.18% of the University of Memphis student enrollment and 88.3% of the current sample, were categorized separately in order to assess the representativeness of the sample. Since only 3.9% of respondents indicated Hispanic origin, that variable was excluded from demographic considerations (see Table 3 in Appendix D for a full list of races). The variable "major" was left open ended to account for the large number of different majors. A total of 73 different responses were recorded. These majors were then recoded based on the University of Memphis' list of colleges. The following colleges were used for this analysis: College of Arts and Sciences; College of Communication and

Fine Arts; College of Education, Health, and Human Sciences; Fogelman College of Business and Economics; Herff College of Engineering; Loewenberg School of Nursing; The Rudi E. Scheidt School of Music; School of Public Health; and University College. A category for those who were undecided about their major of study was also created.

In order to determine those respondents who would be subject to analysis, a variable labeled "use online social networking" was created that accounted for only those individuals who indicated they use such websites. Two variables, number of minutes spent on social networking websites used per week and the most used websites, were used to compute this new variable. First, those respondents who indicated they spent zero hours on social networking websites were identified (n = 13). The most frequently accessed websites for these individuals were then examined. Five respondents indicated they accessed a social networking website. Subsequently, the remaining eight cases were removed from the new variable. Next, those respondents who did not answer the question regarding minutes of use per week were examined (n = 21). Of these individuals, seventeen reported a website used for online social networking. The other four cases were then eliminated from the new variable. A total of 570 cases were coded as using online social networking, and these cases were subject to analysis.

Statistical Analyses

The primary hypothesis that exposure to online deviant behavior is a predictor of personal deviant behavior was first examined by a series of bivariate analyses pairing each of the deviant behaviors. IBM SPSS statistical software was used for all analyses. Each online social networking behavior was analyzed with its corresponding personal deviant behavior. The individual online behavior was then compared to each of the

personal deviant behaviors in order to fully explore the data and any unanticipated relationships. A Pearson's product moment correlation coefficient, also known as Pearson's *r*, was used to determine the strength and the direction of the relationship. This statistic was chosen because it demonstrates the degree of linear relationship between two variables (Vogt, 1993). Values range from -1.0 to 1.0, with values at ± .10 indicating a weak correlation, ± .3 indicating a moderate correlation, ± .6 indicating a strong correlation, and 1.0 indicating a perfect correlation (Levin, Fox, & Forde, 2010). The variables for intimate partner abuse, setting fire to property, and gambling illegally were omitted from analysis due to extremely low frequency of the behavior. Alcohol use on SNSs was not specifically inquired about. Instead, exposure to driving while under the influence was compared to personal alcohol use. It is possible there would have been a stronger relationship had this variable been included in the survey.

Following this bivariate analysis, the four control variables were introduced using a multivariate analysis. In the first model, multiple linear regression was used in order to assess the relationship between each online social networking behavior and its corresponding personal deviant behavior. This test was chosen due to its ability to evaluate the effects of more than one independent variable on one dependent variable. In this test, the independent variable predicts the value of the dependent variable. The coefficient for the predictor variable provides an estimate of the effect of that variable, while the other predictor variable's effect is held constant (Vogt, 1993). While this test examines the same relationships as the bivariate analysis, it controls for an additional variable.

In order to test additional hypotheses, an interaction effect was examined using the second model of multiple linear regression. The formula for linear multiple regression is as follows:

$$\hat{Y} = b_0 + b_1X + b_2Z$$

Here, b_1 and b_2 represent the coefficients for variables X and Z. The b_0 coefficient is the regression constant or intercept. The coefficient b_0 is the expected value of Y if X and Z are 0. The expected change in Y for every unit increase in X is reflected by the slope b_1, when holding constant Z. Likewise, the expected change in Y for every unit increase in Z is reflected by the slop b_2, when holding constant X (Levin et al., 2010).

The above equation fails to address the fact that the strength of X on Y may vary based on Z (i.e., an interaction effect between X and Z). In order to account for this and to test the remaining hypotheses, the below equation was used:

$$\hat{Y} = b_0 + b_1X + b_2Z + b_3XZ$$

This equation allows for the determination of whether the moderating variable weakens or strengthens the relationship, i.e. if an interaction effect has taken place (Aiken & West, 1991). Values for one standard deviation above and below the mean were calculated. These two values, along with the mean, were used to create three equations for each analysis. These equations were plotted using Microsoft Excel in order to see the effect of the moderating variable. If the interaction was not significant, then the first model was used for the analysis. If Model 2 was close to being significant by having a *p* value less than .1 and above a .05, outliers were examined. If present, the log transformation of the variable was computed and placed into Model 2. A log transformation allows the data to be more normally distributed (Beauchamp & Olsen, 1973). Only one model, comparing

SNS vandalism and personal vandalism when testing for an interaction with age, was made significant by this method. Additionally, the log transformation of age was used for all multiple regression analysis due to the presence of outliers.

Chapter 5

Data Analysis and Results

Use of Online Social Networking

Of the 583 respondents who were surveyed for this study, 570 (97.77%) reported use of an SNS and were subsequently studied for analysis. Of these, 24.7% indicated they access these websites more than 10 times per day and 69.4% indicated that they access them more than once a day. Less than 4% of students reported they access these websites once a week and 4.6% indicated that they view these websites less than once a week (see Table 4 in Appendix D for full list.)

During a typical week, the average user of SNSs spent approximately 481 minutes on various websites. Nearly 10% of respondents spent at least 1,200 minutes, or 20 hours on these networks, and 14.4% reported an hour or less of SNS usage (see Tables 5 and 6 in Appendix D for full list). The online network averaged 687 friends or followers, with 9.1% of those surveyed indicating they have over 1,500 friends on their network and 11.1% indicating they have 100 or fewer (see Tables 7 and 8 in Appendix D for full list). Of those surveyed, 36.4% reported they were not hesitant to post information due to their current job or potential future employment and 47.4% reported that their parents did not have access to their social networking profile.

Online Social Network Behavior

A total of 17 behaviors discussed or displayed on online social networking websites were analyzed. Although the drug behavior variable was created as an index variable, the individual behaviors that comprised the index were analyzed separately in order to identify unique characteristics of each behavior. Marijuana use was most

common, with 71.4% of respondents indicating exposure to marijuana on SNSs. Of these, 37.8% indicated this exposure happens often or very often. Exposure to hard drugs was reported by 17.5% of respondents, and 35.7% reported exposure to abuse of prescription drugs (see Tables 9, 10, and 11 in Appendix D for full list). Regarding behaviors related to obtaining and distributing drugs, 40.4% of respondents indicated they have been exposed to the buying of drugs and 35.1% reported exposure to the selling of drugs (see Tables 12 and 13 in Appendix D for full list).

Similar to the preceding index variable, the individual behaviors that constituted deviant driving were examined individually in order to identify any unique characteristics. Exposure to texting while driving was reported by 83.8% of those surveyed. This includes 37% of respondents who indicated this exposure takes place often or very often. Similarly, 86.9% of respondents reported exposure to speeding with 36.5% reporting this exposure takes place often or very often. As for driving while under the influence, 52.8% of those surveyed indicated exposure to this behavior (see Tables 14, 15, and 16 in Appendix D for full list).

The next set of variables provides information on the remaining behaviors that respondents were exposed to on SNSs. Exposure to stealing on SNSs was reported by 33.9% of respondents. Viewing comments or images related to cheating on assignments was reported by 54.9% of those surveyed, and 26.4% were exposed to plagiarism. Slightly over 45% of respondents saw posts regarding a friend's suspension from school. Sixty-five percent reported seeing posts related to fighting. One third of respondents reported that vandalism was discussed or displayed on their online social network. Carrying a weapon was discussed or displayed in 39.3% of respondent's networks.

Approximately 48% saw posts related to the arrest of their friends. Finally, 45.6% indicated exposure to high risk sexual activity on SNSs (see Tables 17 – 25 in Appendix D for full list).

Personal Deviant Behavior

Respondents were asked to report a range of deviant behavior that they participated in during the previous two years. Data were collected on a total of 20 behaviors. The same index for online drug behavior was used for personal drug behavior. Marijuana use was reported by 32.2% of respondents, and 12.9% of those reported they used more than ten times in the previous two years. Slightly less than 2% reported using hard drugs, and 11.5% indicated they had abused prescription drugs. Buying drugs was reported by more respondents than selling, with 16.6% indicating they purchased drugs while only 6% reported they had sold drugs (see Tables 26-30 in Appendix D for full list).

The next index variable was deviant driving, which used the same set of behaviors as the online social network variable. Of those surveyed, 83.6% indicated they have texted while driving, and 48.4% reported they have done this more than 10 times in the past two years. Speeding was reported by 89.6% of those surveyed, and 61.2% indicated they have done this more than 10 times in the past two years. Of those surveyed, 34.4% reported driving while under the influence of drugs or alcohol (see Tables 31, 32, and 33 in Appendix D for full list).

The final index variable was alcohol use. Responses indicated that 61.6% of those surveyed got drunk within the past two years and 25.9% have gotten drunk more than 10 times. As for having more than five drinks in one sitting, 48.7% engaged in this behavior.

Of these, 17.6% reported this behavior taking place more than 10 times (see Tables 34 and 35 in Appendix D for full list).

The last set of variables provides information on the remaining deviant behaviors that were reported by respondents. Stealing below $50 was reported by 16.5% while stealing above $50 was reported by 5.3% of respondents. A total of 50.4% of students indicated they have cheated on an exam or assignment and 11.4% reported they have plagiarized a paper. Slightly more than 7% of respondents have been suspended from school within the past two years. Regarding physical violence, 11.4% have started a fight within the last two years. Less than 10% have vandalized or destroyed property. A total of 10.4% of students have carried an illegal weapon, and 5.4% reported they have been arrested within the past two years. Finally, 23.5% indicated they have engaged in high risk sexual activity (see tables 36-45 in Appendix D for full list).

Bivariate Analysis

In order to test the first hypothesis, which is that exposure to deviant behavior discussed or displayed on online social networking is a predictor of personal deviant behavior, a series of bivariate analyses were run. Pearson's *r* was used to determine the strength and the direction of this relationship. Each of the dependent variables that were self-reported deviant behaviors were compared to all online deviant behaviors in order to explore all possible relationships. A total of 380 significant correlations were found, although a majority of these were very weak. Given that the number of significant correlations was large, only those relationships that represent a moderate correlation were further analyzed. This resulted in seven pairs of behaviors. A total of three pairs had a Pearson's *r* over .4.

The strongest correlation was associated with cheating. There was a moderate positive correlation between exposure to cheating on online social networking websites and reported cheating among respondents, $r = .440$, $p < .001$. The next strongest correlation also relates behaviors associated with academic misconduct. There was a moderate positive correlation between exposure to plagiarism on SNSs and personal plagiarism among respondents, $r = .434$, $p < .001$. The next strongest was a moderate positive correlation between exposure to high risk sexual activity on SNSs and personal high risk sexual activity, $r = .404$, $p < .001$. The index variable deviant driving, which consists of speeding, driving while under the influence, and texting while driving, was also among the strongest correlations. There was a moderate positive correlation between exposure to deviant driving on SNSs and personal deviant driving, $r = .397$, $p < .001$.

Other pairs of behaviors represented moderate correlations, although these relationships were not as strong as the preceding variables. Exposure to drug behavior was moderately correlated with personal drug behavior, $r = .333$, $p < .001$. Exposure to carrying an illegal weapon on online social networking websites was correlated with personal carrying of a weapon, $r = .352$, $p < .001$. Finally, exposure to plagiarism was also moderately correlated with personal cheating, $r = .299$, $p < .001$. Only one behavior was not correlated with its counterpart. Exposure to getting suspended on SNSs was not significantly correlated with personally getting suspended, $r = .043$, $p = .307$.

Multivariate Analysis

In order to provide additional information for the first hypothesis, multiple linear regression was used. Each control variable was run with each pair of similar dependent and independent variables that measured the same type of behavior. Included in this

analysis was the pair personal cheating on exams and SNS plagiarizing a paper or assignment due to the relatively high correlation of these variables. Personal alcohol use was compared to exposure to driving while under the influence on SNSs. The results are listed below according to the corresponding moderating variable. The remaining hypotheses were tested by using an interaction effect between the moderating and independent variable.

Access. It was found that each of the behaviors related to exposure on online social networks significantly predicted each personal deviant behavior when controlling for frequency of access, with one exception (see Table 46 in Appendix D). Exposure to the reporting of getting suspended on online social networks did not significantly predict personal getting suspended (R^2 = .043, B = .007, p = .321). An interaction effect was tested for all variables, and one significant interaction was found.

The only set of variables in which there was an interaction effect with access was related to drug behavior. This relationship was found between access and exposure to drug behavior on SNSs (R^2 = .136, B = -.060, p < .001). Those with higher access had a larger y-intercept and a smaller slope compared to those with lower access who had a smaller y-intercept and a larger slope (see Figure 1 and Table 47). Respondents with higher exposure to drug behavior and lower frequency of access to online social networking were more likely to participate in drug related behavior than those who have a higher frequency of access.

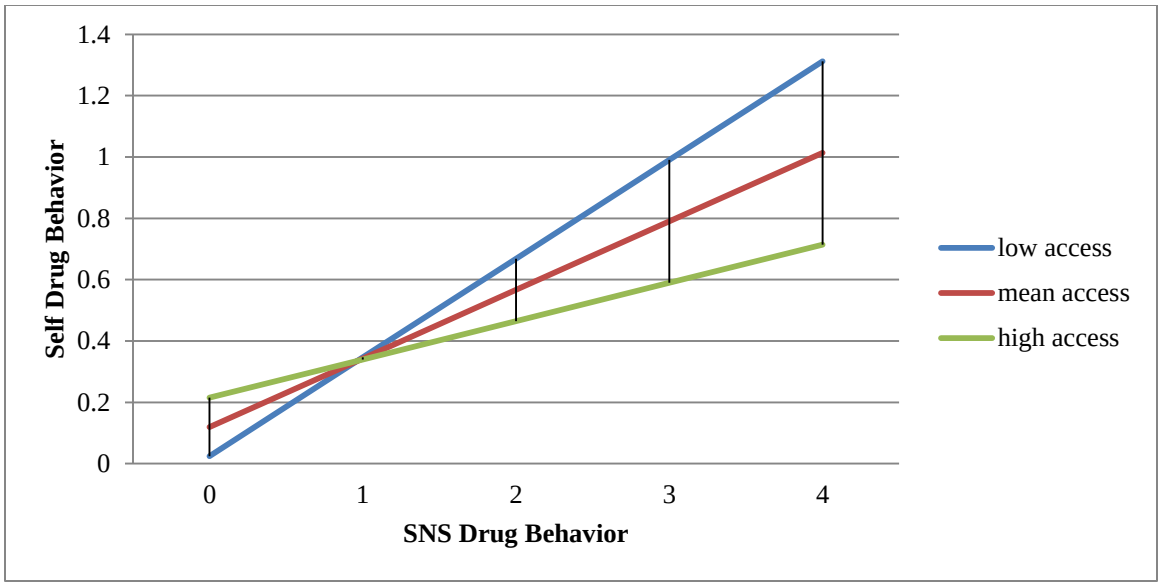

Figure 1. Interaction between Access and SNS Drug Behavior on Self Drug Behavior

Table 47

Multiple Regression of Drug Behavior with Access Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfDrugBehavior	0.136	Constant	-0.113		0.259
		Access	0.058	0.135	0.017
		SNSDrugBehavior	0.464	0.750	0.000
		accessXdrugbehavior	-0.060	-0.494	0.000

Minutes. Exposure to each SNS behavior was shown to be a significant predictor of personal deviant behavior when controlling for the number of minutes spent on SNSs (see Table 48 in Appendix D). Again, there was one exception. Exposure to getting suspended on online social networks did not significantly predict personal getting suspended (R^2 = .011, B = .012, p = .488) when controlling for the number of minutes.

Similar to the preceding moderating variable, the only significant interaction for the number of minutes spent on SNSs was for drug behavior. The regression equation indicated an interaction effect was evident between the number of minutes and exposure to drug behavior on the online network (R^2 = .119, B = -.016, p < .05). Those with a higher number of minutes had a larger y-intercept and a smaller slope compared to those with fewer minutes who had a smaller y-intercept and a larger slope (see Figure 2 and Table 49). Respondents with higher exposure to drug behavior and lower number of minutes spent on SNSs were more likely to participate in drug related behavior than those who spend a higher number of minutes.

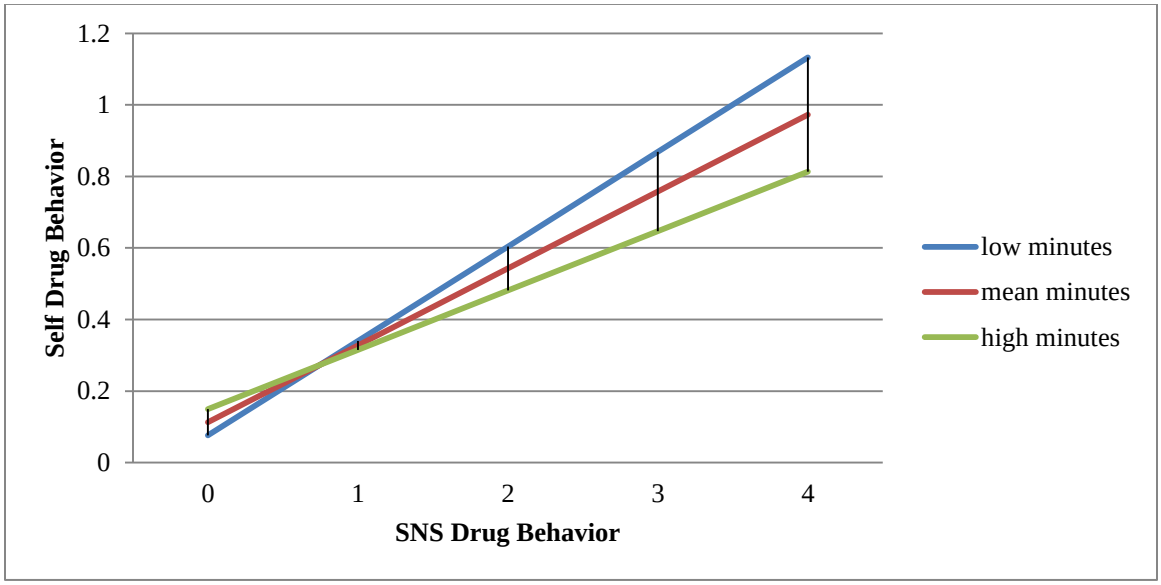

Figure 2. Interaction between Minutes and SNS Drug Behavior on Self Drug Behavior

Table 49

Multiple Regression of Drug Behavior with Minutes Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfDrugBehavior	0.119	Constant	0.061		0.360
		minutes	0.012	0.053	0.354
		SNSDrugBehavior	0.284	0.459	0.000
		minXdrugbehavior	-0.016	-0.177	0.041

Friends. Similar to results with the preceding moderating variables, each of the behaviors related to exposure of deviant behavior on SNSs significantly predicted each personal deviant behavior when controlling for the number of friends on an online social network, with the exception of getting suspended (see Table 50 in Appendix D). Exposure to the reporting of getting suspended on online social networks did not significantly predict personally getting suspended (R^2 = .011, B = .012, p = .488) when controlling for the number of friends.

A total of four sets of variables were found to have an interaction effect with the number of friends or subscribers to a social networking profile: drug behavior, deviant driving, carrying a weapon, and cheating on an exam or assignment. Exposure to drug behavior was found to have an interaction effect with the number of friends on SNSs (R^2 = .123, B = -.019, $p < .05$). Those with a lower number of friends had a smaller y-intercept and higher slope compared to those with a higher number of friends (see Figure 3 and Table 51). Those with higher exposure to drug behavior and lower number of friends on online social networking websites are more likely to participate in drug related behavior than those who have a higher number of friends. A similar effect was found

when analyzing exposure to cheating on SNSs and personal reports of cheating (see Figure 4 and table 52 in Appendix D).

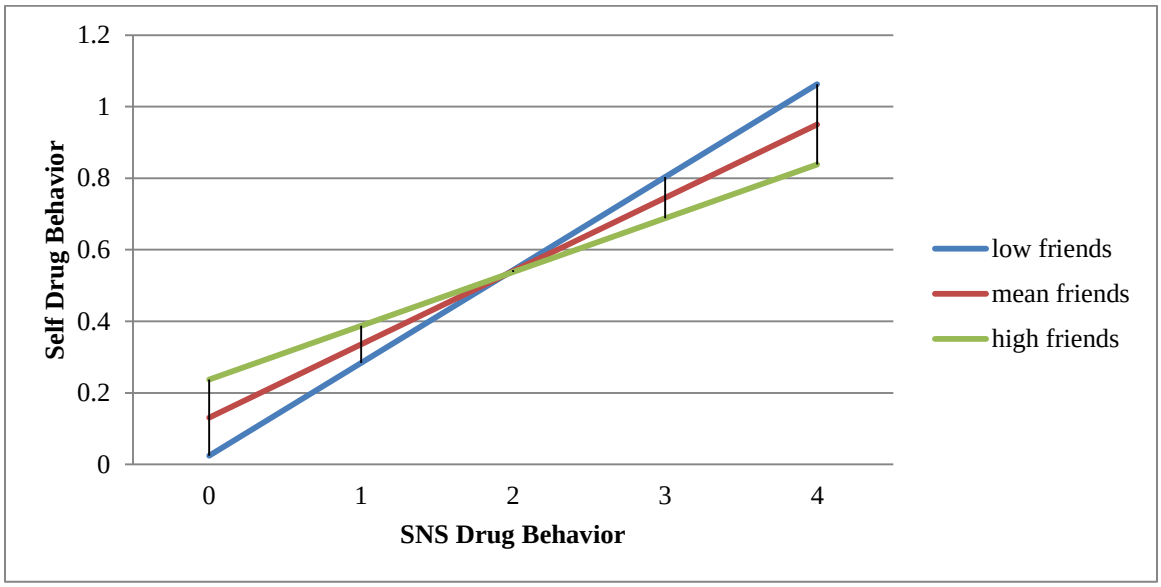

Figure 3. Interaction between Friends and SN Drug Behavior on Self Drug Behavior

Table 51

Multiple Regression of Drug Behavior with Friend Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfDrugBehavior	0.123	Constant	-0.031		0.667
		friends	0.037	0.152	0.012
		SNSDrugBehavior	0.288	0.466	0.000
		friendsXdrugbehavior	-0.019	-0.211	0.047

For deviant driving, results showed an interaction effect between the number of friends and exposure to deviant driving on SNSs (R^2 = .2, B = -.037, p < .05). For lower exposure to deviant driving online, the effect of number of friends was strongest. Those

with fewer friends had the smallest y-intercept and the largest slope, while those with higher number of friends had a larger y-intercept and a smaller slope (see Figure 5 and Table 53). For respondents with a high exposure to deviant driving on online networks, the number of friends reported by a respondent had little effect on self-reported deviant driving.

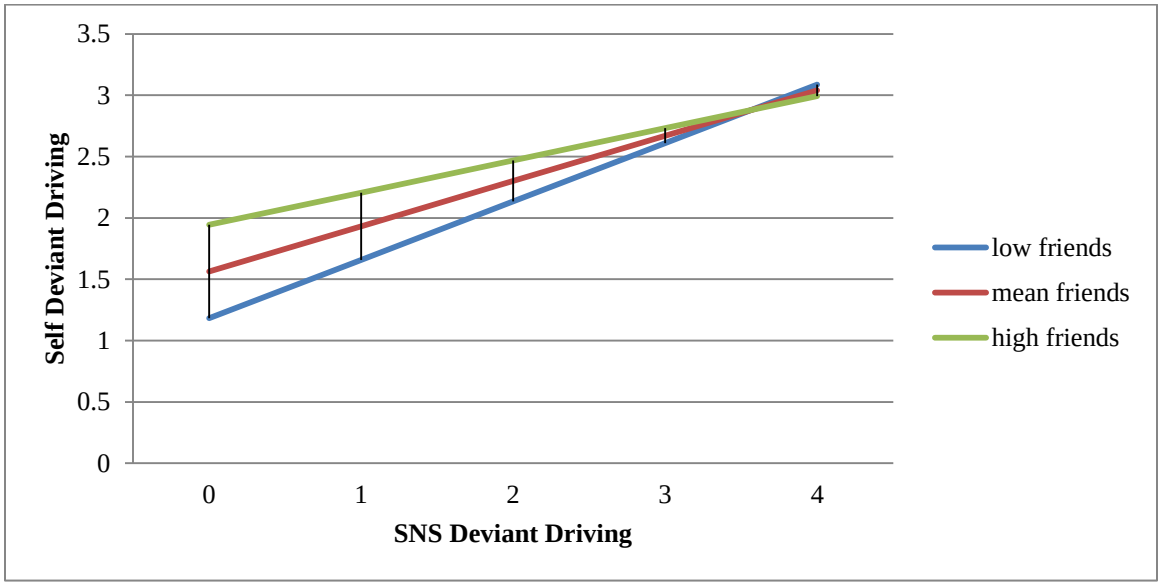

Figure 5. Interaction between Friends and SNS Deviant Driving on Self Deviant Driving

Table 53

Multiple Regression of Deviant Driving with Friend Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfDeviantDriving	0.200	Constant	0.986		0.000
		friends	0.132	0.355	0.000
		SNSDeviantDriving	0.531	0.498	0.000
		friendsXdevdriving	-0.037	-0.273	0.016

Finally, the analysis showed an interaction effect between the number of friends and exposure to the carrying of a weapon on online social networks (R^2 = .124, B = -.027, p < .05). The slope for those with a higher number of friends was smaller and the y-intercept was larger for those with a lower number of friends (see Figure 6 and Table 54). Those with higher exposure to the carrying of a weapon and lower number of friends are more likely to carry a weapon than those who have a higher number of friends. Although the results were somewhat similar to drug behavior and cheating, the point at which the effect of a lower number of friends becoming stronger took place at a lower frequency of exposure to the online behavior.

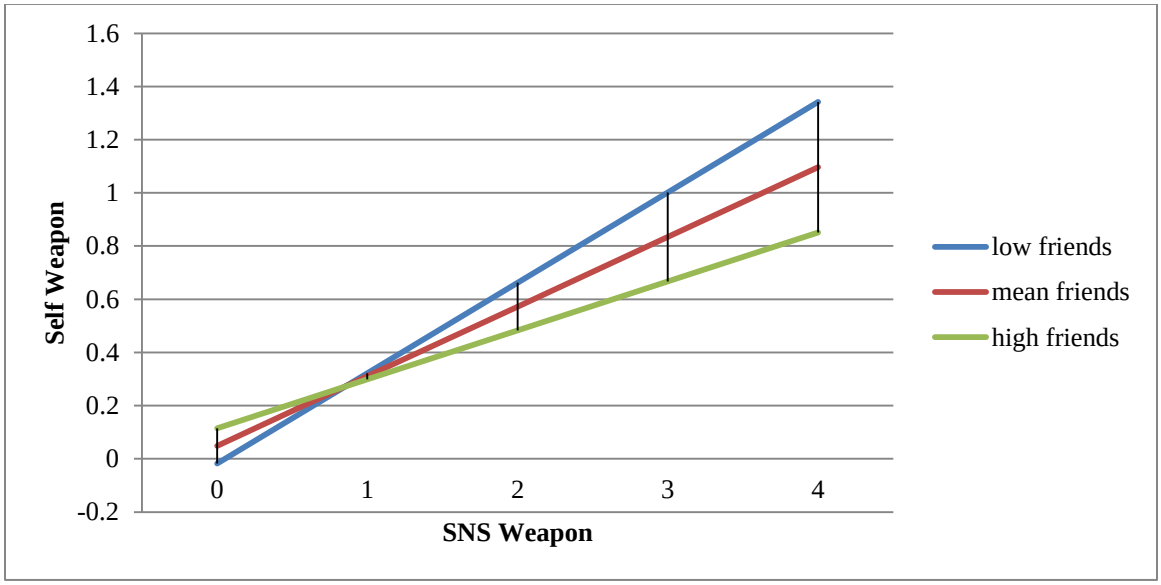

Figure 6. Interaction between Friends and SNS Weapon on Self Weapon

Table 54

Multiple Regression of Weapon Carrying with Friend Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfWeapon	0.124	Constant	-0.052		0.470
		friends	0.023	0.081	0.104
		SNSWeapon	0.380	0.546	0.000
		friendsXweapon	-0.027	-0.243	0.013

Age. As with previous findings, the behaviors related to exposure of online social networking websites significantly predicted each personal deviant behavior when controlling for age (see Table 55 in Appendix D). Suspension was again the exception (R^2 = .003, B = .015, p = .382). Results showed that exposure to the reporting of suspension on online social networks did not significantly predict personal suspension.

Age was shown to have a significant interaction effect with six sets of behaviors. Three unique results came from the analysis. The first result, demonstrated by variables for using a weapon, showed an interaction effect was evident between age and the exposure to carrying a weapon on SNSs (R^2 = .188, B = 1.170, p < .001). Those who were older had a much larger slope than those who were younger (see Figure 7 and table 56). Respondents with higher exposure to the carrying of a weapon who were older were more likely to carry a weapon than those who were younger. Similar results were seen for the pairs of behaviors related to plagiarizing and theft above and below $50 (see Figures 8-10 and Tables 57-59 in Appendix D).

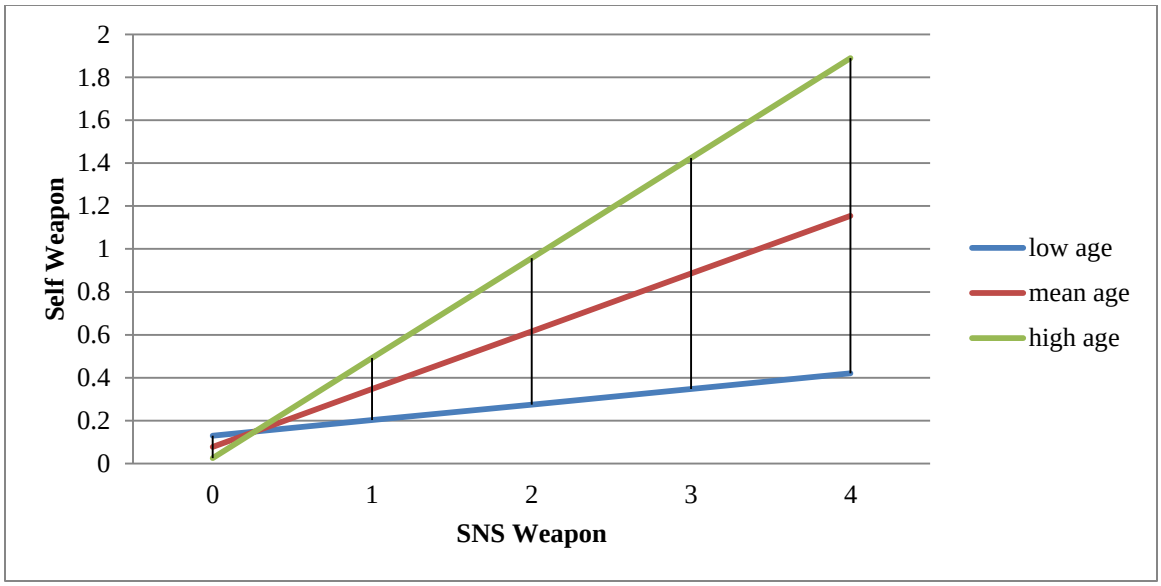

Figure 7. Interaction between Age and SNS Weapon Carrying on Self Weapon Carrying

Table 56

Multiple Regression of Weapon Carrying with Age Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfWeapon	0.188	Constant	1.015		0.111
		LNAge	-0.308	-0.062	0.138
		SNSWeapon	-3.290	-4.721	0.000
		LNageXweapon	1.170	5.076	0.000

The second result had a similar effect as the preceding pairs, although there is one exception. An interaction effect was found between age and the exposure to arrest on the online social networks (R^2 = .057, B = .436, p < .001). The effect was stronger for those who were older (see Figure 11 and Table 60). Those with a higher frequency of exposure to arrest on online networks and higher age were more likely to have been arrested than those who were younger. The difference when analyzing arrest is evident for those who

were younger. As frequency of exposure to arrests increased, those who were younger were less likely to have been arrested.

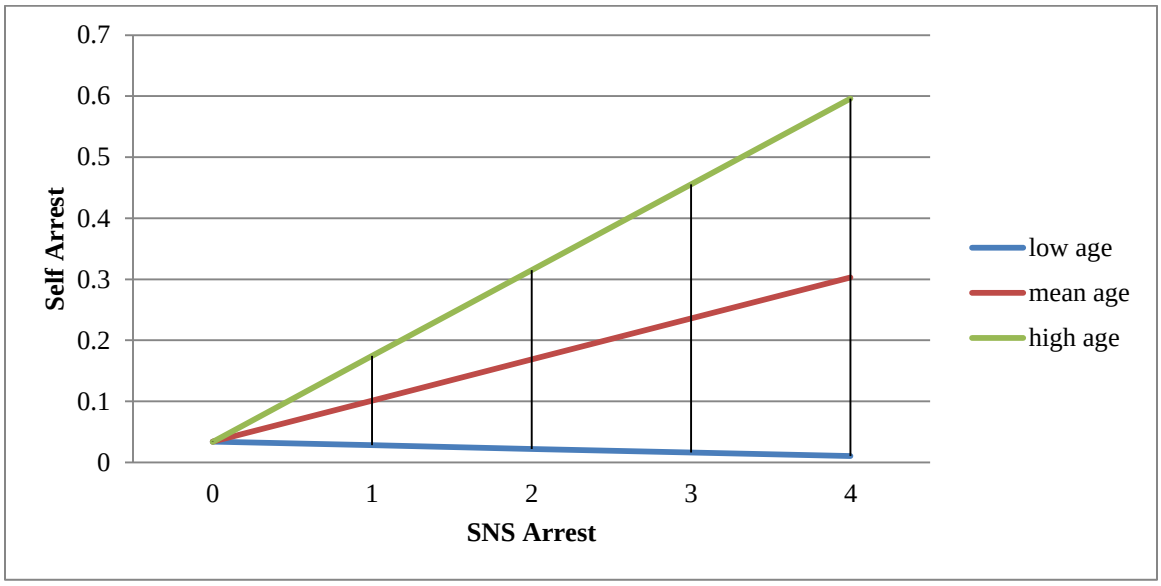

Figure 11. Interaction between Age and SNS Arrest on Self Arrest

Table 60

Multiple Regression of Arrest with Age Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfArrest	0.057	Constant	0.037		0.906
		LNAge	-0.001	-0.001	0.990
		SNSarrested	-1.259	-3.654	0.000
		LNageXarrest	0.436	3.808	0.000

The final significant interaction effect involved vandalism. Results indicate that an interaction effect was evident between age and the exposure of vandalism on the online network (R^2 = .085, B = .316, p = .05). The effect was stronger for those with a higher age (see Figure 12 and Table 61). Those with a greater exposure to vandalism on

online networks and a higher age were the most likely to have higher rates of self-reported vandalism. The analysis on vandalism is unique in that the difference in the low, mean, and high levels of age is less pronounced that in the preceding analyses.

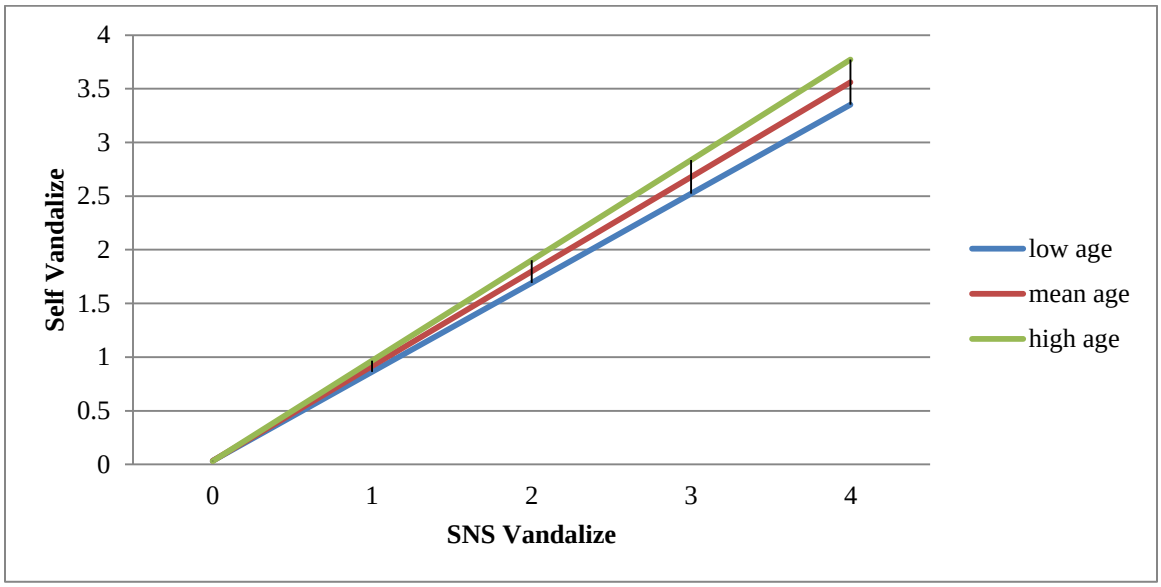

Figure 12. Interaction between Age and SNS Vandalism on Self Vandalism

Table 61

Multiple Regression of Vandalism with Age Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
LNSelfVandalize	0.085	Constant	0.060		0.772
		LNAge	-0.009	-0.006	0.892
		LNSNSVandalism	-0.790	-1.390	0.104
		LNageXlnvandalism	0.316	1.670	0.050

Chapter 6

Discussion

The current study attempted to gain a better understanding of online social networking and how deviant behavior can be learned through interacting with peer groups via a virtual network. Differential association and social learning theory postulate principles that explain how behavior is learned through social interaction. These theories originally could not account for the unique characteristics of online social networking. Interaction with peer groups happens at a greater frequency, at any time of the day, and for however long an individual wishes to be exposed. Results from this study show that users of SNSs have similar behaviors to those in their online social group.

The first hypothesis stated that exposure to deviant behavior discussed or displayed on SNSs is a predictor of personal deviant behavior. Results from this study support this hypothesis. The bivariate analysis showed correlations among most of the deviant behaviors. The multivariate analysis controlled for four additional variables. It was found that these controls did not alter any of the significant relationships found in the first analysis.

The strongest relationship in support of the first hypothesis was related to academic misconduct. Cheating on exams and plagiarizing papers and assignments were moderately correlated with exposure to these behaviors on SNSs. That is, those students who had friends who discussed cheating and plagiarizing online were the most likely to cheat and plagiarize themselves. This finding is not surprising given that the sample focused on university students. It can be assumed that these behaviors involve certain tactics and methods to avoid detection, some of which could be learned by peers.

Also among the strongest predictors was high-risk sexual activity. Given the social nature of this behavior, one would need to be exposed to friends who participate in the same activity. The Internet opens up a new door for this particular behavior. Other research has shown that those with extreme sexual views sometimes have trouble finding others with similar interests and will use online networks to find others who participate in the same type of behaviors (McKenna, 1998).

Only one behavior was found to be insignificant in predicting personal behavior as a result of online exposure. Although observing posts related to getting suspended from school was reported by 45.5% of those surveyed, less than 8% of respondents had actually been suspended. This behavior is different from other behaviors that were included in the survey. Suspension is the result of a school sanction; it is not a behavior in which an individual choses to participate. A student could commit dozens of illegal acts and never get caught; however, the same student could commit one illegal act that is observed by administrators and subsequently get suspended.

The second hypothesis states that the relationship between exposure to SNS behavior and self-reported deviant behavior is strengthened with greater frequency of access. Results did not support this hypothesis. The only significant interaction found when using access as a moderating variable was with drug behavior. The relationship between exposure to SNS drug behavior and self-reported drug behavior was strongest for those who had the lowest frequency of access.

The third hypothesis, that the relationship between exposure to SNS deviant behavior and personal deviant behavior is strengthened as the amount of time social networking websites were accessed increased, was also not supported. As with the

previous hypothesis, the only behavior for which there was a significant interaction was drug related behavior. Likewise, the relationship between exposure to SNS drug behavior and self-reported drug behavior was strongest for those who spent less time on SNSs.

Tests for the second and third hypothesis indicated the opposite of the assumptions made. These two hypotheses are similar in that they both measure the overall amount of exposure. The sixth principle of Sutherland's differential association theorizes that individuals become deviant because of an excess of definitions favorable to violation of law over definitions unfavorable to violation of the law. The seventh principle expands upon this by stating that differential association may vary in frequency, duration, priority, and intensity. If an individual is associating with a deviant group of peers through an online network, an increase in this exposure, whether it is frequency (access) or duration (minutes), should result in higher levels of self-reported deviancy.

There are multiple explanations for the lack of support found in the data for these hypotheses. The analysis focused on all respondents and the entire online social network, not a subsection that was particularly deviant. Although levels of deviancy were measured, levels of behavior that were unfavorable to law violation were not. For drug behavior, it is possible that although there was a high level of exposure, there could have been an equally high level of exposure that was anti-drug behavior.

Another explanation centers on the specific behavior that was found to have a significant interaction effect. It is possible that those who frequently participate in drug behavior use SNSs less than those who do not engage in this behavior as often. Drug behavior is made up of using marijuana, using hard drugs, using prescription drugs, buying drugs, and selling drugs. These behaviors are associated with offline activity that

corresponds with a particular lifestyle. Some behaviors, such as cheating or plagiarizing, could use SNSs as a means to perform the behavior. Others, such as carrying a weapon or stealing, are isolated incidents that may not take up all or much of an individual's time. However, the interaction effect for these examples was insignificant. Further analysis may reveal additional information for other types of behaviors.

The fourth hypothesis states that the size of the online social group, via friends or subscribers to an online profile, affects the strength of the relationship between exposure to SNS behavior and personal deviant behavior. Results support this hypothesis. The direction of this hypothesis was not specified due to support for both a large and small number of friends having an effect on the relationship. Of the four significant interactions that were found, two different types of results were observed.

For three of the four models, the relationship between exposure to SNS deviant behavior and self-reported deviant behavior was strongest for those with fewer friends. These behaviors include drug behavior, cheating, and carrying of a weapon. Deviant driving was affected differently by the number of friends. Among those who had low levels of exposure to SNS deviant driving, those with a higher number of friends had higher self-reported deviant driving. As exposure to the SNS behavior increased, however, the relationship was insignificant.

The results for the deviant driving model show that friends have a different effect on this type of behavior. It is possible that this is a result of the autonomous nature of driving. The other three behaviors can all take place while interacting with other people. Those who use, buy, or sell drugs are typically involved with others. Cheating can involve someone else; although, this may or may not be a friend. The carrying of a

weapon can be done without the aid of others, but it is possible those who carry do so when associating with others who likewise carry a weapon. However, driving is a behavior that an individual does by him or herself. While there may be others in the vehicle, there is only one person behind the wheel. The driver is the only one who is texting while driving, speeding, or driving while under the influence. There could be someone in a nearby car who is also engaging in this behavior, but this behavior is unique among the others given its individualistic nature.

The number of friends that would affect the strength of the relationship between SNS behavior and personal behavior was not specified due to multiple explanations that could account for both ends of the spectrum. Results of this study mostly support tenets of differential association and research by Wellman and Gulia (1999) and Donath and Boyd (2004). The third principle of differential association states that learning occurs within intimate personal groups. Wellman and Gulia identified that personal groups usually consisted of around 15 significant ties, with about three to six close, intimate ties. Donath and Boyd found that online communication would increase distant acquaintances and not strong, intimate friendships. Therefore, those with fewer online friends would be more affected by exposure to deviant behavior and more likely to engage in deviant behavior themselves.

The size of one's network of friends may also play a role in the level of reinforcement. According to Akers' social learning theory, the principal part of the learning of criminal behavior occurs in those groups that compose an individual's major source of reinforcement. Additionally, the strength of criminal behavior is a direct function of the amount, frequency, and probability of its reinforcement. If a large group

of deviant friends served as an individual's major source of reinforcement, it is reasonable to assume that a larger number would equate to increased levels of reinforcement. However, Akers also introduces the concept of differential reinforcement, which states that deviant behavior will only take place when it becomes dominant over conformist behavior. Since conformist behavior was not inquired about in this study, conclusions cannot be drawn as to the size of the network affecting reinforcement.

The final hypothesis states that the relationship between exposure to SNS behavior and personal deviant behavior will be stronger for those who are younger. The results did not support this hypothesis. A total of six behaviors were found to have significant interactions when accounting for age. The relationship between exposure to these SNS behaviors and self-reported behaviors was strongest for older respondents. The hypothesis originates from the fact those who are younger are responsible for a disproportionate amount of crime. Specifically, individuals will commit less crime as they age (Siegel, 2001). Those who are younger are also the most likely to use online social networking.

The rejection of this hypothesis is due to the characteristics of the sample. Data came from university students whose mean age was 21.29 years. Over 84% were between the ages of 18 and 22. Outliers were controlled for by taking the log transformation of this variable when conducting multiple regression. This left a very small age range for analysis. Additionally, the personal deviant behavior was reported only for the previous two years. This left a large percentage, over 36%, who could have reported behavior before they were of legal age. Given the young age of the sample, it is not surprising that those who are older had higher self-reported deviancy. If the current study were expanded

beyond college students and focused on the general population, it is assumed that the fifth hypothesis would no longer be rejected.

Limitations

Some limitations are evident with this research design. First, the use of a convenience sample limits the study's external validity and reliability. Although the basic demographics of race and gender were found to correspond with the University of Memphis' data, other variables such as major of study were not compared. Had a random sample been used, results would still only be generalizable to other university student populations with similar characteristics.

The intent of this research was exploratory. It was not designed to establish causation, and thus, internal validity was low. The cross sectional nature of this study makes it impossible to establish time order. It is not known whether deviancy precedes exposure to SNS behavior. It is possible that the measures of deviance are not fully comprehensive. However, these selected behaviors are consistent with other literature. Additionally, it is also possible that the self-reported nature of the study presented the problem of social desirability in that respondents may report peer or self-deviance incorrectly to present themselves favorably.

The time constraints of this research did not allow for all models of multiple regression to be run. Further analyses may be needed to fully explore the data. One such analysis is to test for the quadratic relationship of the variables. The current analysis assumed that the multiple regression was linear. A quadratic relation would identify if there was a departure from linearity, which may change the direction of the regression

line. This can be accounted for by squaring the independent variables and reanalyzing the data (Vogt, 1993).

Future Studies

The contemporary nature of this research will contribute significantly to future studies. Online social networking has seen unprecedented growth in recent years. Its impact on individuals has yet to be researched in detail. This is especially crucial to young children who become accustomed to communicating with their friends at a very young age in an online format. This increase in exposure will undoubtedly affect the behavior that is learned, but in what ways or to what degrees behavior is impacted is yet unknown.

Future studies will need to expand beyond the scope of analyzing college students. Early research on SNSs often used samples derived from university students since this was the primary group that used these websites. This is no longer the case. Users of social networking websites know no bounds, encompassing all ages, races, and backgrounds. It is possible that levels of deviancy will differ with those who do not attend a university, and this group will need to be the subject of future attention.

The primary focus of the current study was the relationship between SNS behavior and personal behavior. Future research can explore causation by accounting for additional variables. Examining reinforcement can strengthen the applicability of differential association and social learning theories. This study compares exposure to deviant behavior in online social networks to personal deviancy. An individual may view a post or image of a behavior, but comments by peers may provide additional reinforcement, which may result in the behavior being viewed as socially acceptable.

A longitudinal study on a younger sample would be vital to the understanding of how online social networking changes patterns of behavior and affects the socialization process of youth. This would allow for time order to be established, which will increase the internal validity of SNS research. A longer study would also allow for additional variables to be incorporated, which may explain some of the results. The current study was a small step toward establishing causation. A longitudinal study would be a giant leap in this direction.

Previous research has shown that some forms of extreme behaviors, such as hate groups and sexual deviants, are validated through the use of online social networking. These types of behaviors will need to be further assessed as SNSs grow. Individual deviant behaviors may need to be targeted in order to fully explore how SNSs affect them. For example, drug behavior was found to have multiple interaction effects with moderating variables. It seems possible that this behavior is associated with the use of SNSs. Further analysis is needed to understand this relationship.

Several additional studies should be expected from the current data. Multiple variables were left out of the analysis. Demographic information such as gender, race, major of study, and GPA can all be examined as control and moderating variables. The type of SNS that is used most often is believed to have an impact on the results. Those who use a traditional SNS, such as Facebook, may differ from someone who uses a site associated with media, such as YouTube. Questions were asked about the hesitancy of respondents to post due to their job and the presence of parents on SNSs. These additional variables may affect the amount of deviant behavior that is reported on each site.

Conclusion

The current study is beneficial to those who attempt to understand how online social networking has begun to change society. It is a preliminary step in examining how behavior that takes place offline is affected by online exposure to deviant behavior and ultimately crime. As the use of online social networking increases, it has become clear that this field of research is in its infancy. Prior studies become outdated almost as soon as they are published, requiring replications to affirm previous findings as well as explorations of new areas.

This research has shown there is a relationship between exposure to deviant behavior depicted on online social networking sites and personal deviant behavior. The strength of this relationship is affected by frequency of access to these sites, the number of minutes they are used, the number of friends one has on the network, and the age of the individual using the website. Future studies will need to explore this relationship further by examining additional criteria of causation as well as the possibility that these relationships may not be linear.

It is possible online social networking has affected society in other ways. It may have changed the socialization patterns of children, altered the ways teenagers interact, and impacted the mechanisms of communication used by adults. The avenues of research in this field are fruitful. The results of this study demonstrate social networking website's potential to influence crime and deviancy in ways that have yet to be fully explored by criminologists.

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Appendix A

Dear Student:

You are invited to participate in a survey that will be conducted by Timothy McCuddy, a master's student in the Criminology and Criminal Justice Department, as part of the research for his thesis. The thesis is titled "Peer Influence and Social Networking Websites: Applying Differential Association and Social Learning Theories to Online Interaction." The survey will take approximately ten minutes to complete.

Your participation in this survey will result in no compensation nor will it have an effect on your grade in this class. You may choose not to take this survey. Additionally, you may choose to take the survey, but not answer all the questions. There are no anticipated physical, psychological, social, legal or other associated risks related to this survey. If you are under the age of 18, you should not respond to this survey.

Attached, you will find the brief survey. Your responses to these questions will remain completely anonymous. Please do not place your name or any other information that could be used to identify you on this survey.

Your participation is greatly appreciated. If you have any questions or concerns, please feel free to contact the researcher or the Department of Criminology and Criminal Justice.

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☐ I certify that I am 18 years or older

For answers to questions regarding the research subjects' rights, the Institutional Review Board for the Protection of Human Subjects should be contacted at 901-678-3074.

Appendix B

1. **Gender:** Male ☐ Female ☐
2. **Age:** _____
3. **Race/Ethnicity:** Caucasian ☐ African American ☐ Native American ☐ Asian ☐ Other ☐ (please specify) _____
4. **Are you of Hispanic or Latino origin?** Yes ☐ No ☐
5. **Classification:** Freshman ☐ Sophomore ☐ Junior ☐ Senior ☐
6. **Current estimated GPA**: _____
7. **What subject are you majoring in**? _____

Directions:

- **Please indicate with an "X" or checkmark how often people in your online friendship network disclose any of the following information on social networking websites.**
- **Information can be in the form of status updates, pictures, videos, or comments.**
- **For the purposes of this survey, the term "social networking website" refers to websites such as Facebook, Twitter, Reddit, Instagram, YouTube, Pinterest, Flickr, Google+, MySpace etc.**

	Never	**Rarely**	**Sometimes**	**Often**	**Very Often**
8. Stealing something	☐	☐	☐	☐	☐
9. Cheating on exams or graded assignments	☐	☐	☐	☐	☐
10. Driving while under the influence of drugs or alcohol	☐	☐	☐	☐	☐
11. Physical fighting	☐	☐	☐	☐	☐
12. Getting suspended from school	☐	☐	☐	☐	☐
13. Vandalism	☐	☐	☐	☐	☐
14. Gambling illegally	☐	☐	☐	☐	☐
15. Marijuana or related paraphernalia	☐	☐	☐	☐	☐
16. Hard illegal drugs (including cocaine, heroin, meth, etc.)	☐	☐	☐	☐	☐
17. Prescription drugs used recreationally	☐	☐	☐	☐	☐
18. Texting while driving	☐	☐	☐	☐	☐
19. Illegally carrying weapons (such as a knife or gun)	☐	☐	☐	☐	☐
20. Plagiarizing a paper	☐	☐	☐	☐	☐

	Never	Rarely	Sometimes	Often	Very Often
21. Getting arrested	☐	☐	☐	☐	☐
22. Physically abusing an intimate partner	☐	☐	☐	☐	☐
23. Buying illegal drugs	☐	☐	☐	☐	☐
24. Selling illegal drugs	☐	☐	☐	☐	☐
25. Setting fire to someone's property on purpose	☐	☐	☐	☐	☐
26. Engaging in high risk sexual activities	☐	☐	☐	☐	☐
27. Speeding	☐	☐	☐	☐	☐

28. How often do you access social networking websites?

a. Less than once a week
b. Once a week
c. 2-6 times a week
d. Once a day
e. 2-5 times a day
f. 6-9 times a day
g. 10+ times

29. Approximately how many hours do you spend on social networking websites during a typical week? _____

30. How many friends, followers, or subscribers do you have to your social networking profile? _____

31. Do your parents have access or subscribe to your online social networking profile? Yes ☐ No ☐

32. Have you ever been hesitant to post information due to your current job or potential future employment? Yes ☐ No ☐

33. Which social networking websites do you use most often? Please list these in order of most used:

1. _____
2. _____
3. _____

Please indicate how often in the past two years you did each of the following:

	Never	Once	2-5 times	6-9 times	10 + times
34. Stole something less than or equal to $50	☐	☐	☐	☐	☐
35. Stole something more than $50	☐	☐	☐	☐	☐
36. Cheated on an exam or graded assignment	☐	☐	☐	☐	☐
37. Driven a car while under the influence of drugs or alcohol	☐	☐	☐	☐	☐
38. Hit or threatened an intimate partner	☐	☐	☐	☐	☐
39. Got suspended from school	☐	☐	☐	☐	☐
40. Vandalized or destroyed property	☐	☐	☐	☐	☐
41. Gambled illegally	☐	☐	☐	☐	☐
42. Used marijuana	☐	☐	☐	☐	☐
43. Used hard drugs (including cocaine, heroin, meth, etc.)	☐	☐	☐	☐	☐
44. Used prescription drugs recreationally	☐	☐	☐	☐	☐
45. Got drunk	☐	☐	☐	☐	☐
46. Texted while driving	☐	☐	☐	☐	☐
47. Illegally carried a weapon (such as a gun or knife)	☐	☐	☐	☐	☐
48. Plagiarized a paper	☐	☐	☐	☐	☐
49. Started a physical fight with the intention of hurting someone	☐	☐	☐	☐	☐
50. Been arrested	☐	☐	☐	☐	☐
51. Bought illegal drugs	☐	☐	☐	☐	☐
52. Sold illegal drugs	☐	☐	☐	☐	☐
53. Set fire to someone's property on purpose	☐	☐	☐	☐	☐
54. Had more than 5 alcoholic drinks in one sitting	☐	☐	☐	☐	☐
55. Engaged in high risk sexual behavior	☐	☐	☐	☐	☐
56. Driven faster than the speed limit	☐	☐	☐	☐	☐

Appendix C

Items and Variable Names	Coding and Comments
1. Respondent ID (ID)	Assigned number to survey that was issued at time of collection
2. Gender (Gender)	0 = Male 1 = Female
3. Age (Age)	Respondent's self-reported age that was kept as a continuous variable
4. Race (Racerecode)	Recoded into 3 categories 0 = Caucasian 1 = African American 2 = Other
5. Hispanic or Latino Origin (Hispanic)	0 = Yes 1 = No
6. Classification (Classification)	0 = Freshman 1 = Sophomore 2 = Junior 3 = Senior
7. Current estimated GPA (GPA)	GPA recoded based on the University of Memphis advising system 0 = 0-1.99 1 = 2.0-2.49 2 = 2.5-2.99 3 = 3.0-3.49 4 = 3.5-4.0
8. Subject being majored in (Majrecode)	Recoded based on the University of Memphis' list of Colleges 0 = Undecided 1 = Arts and Sciences 2 = Communication and Fine Arts 3 = Education Health and Human Performance 4 = Business and Economics 5 = Engineering 6 = Nursing 7 = Public Health 8 = University College

Items and Variable Names	Coding and Comments
9. Steal something on SNS (SNSteal)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
10. Cheating on SNS (SNCheat)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
11. Driving while under the influence on SNS (SNDUI)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
13. Fighting on SNS (SNFight)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
13. Suspended from school on SNS (SNSuspended)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
14. Vandalism on SNS (SNVandalism)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often

Items and Variable Names	Coding and Comments
15. Gambling on SNS (SNGambling)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
16. Marijuana use on SNS (SNMarijuana)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
17. Hard drug use on SNS (SNHardDrug)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
18. Recreational prescription drug use on SNS (SNPrescDrug)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
19. Texting while driving on SNS (SNDriveText)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
20. Carrying illegal weapon on SNS (SNWeapon)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often

Items and Variable Names	Coding and Comments
21. Plagiarize on SNS (SNPlagiarize)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
22. Getting arrested on SNS (SNarrested)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
23. Abusing intimate partner on SNS (SNPartnerAbuse)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
24. Buying drugs on SNS (SNBuyDrugs)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
25. Selling Drugs on SNS (SNSellDrugs)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
26. Setting fire to property on SNS (SNFire)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often

Items and Variable Names	Coding and Comments
27. High risk sexual behavior on SNS (SNRiskySex)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
28. Speeding on SNS (SNSpeeding)	Frequency of exposure to SNS behavior 0 = Never 1 = Rarely 2 = Sometimes 3 = Often 4 = Very Often
29. How often the respondent accesses SNS during a typical week	0 = Less than once a week 1 = Once a week 2 = 2-6 times a week 3 = Once a day 4 = 2-5 times a day 5 = 6-9 times a day 6 = 10+ times a day
30. Minutes spent on a SNS during a week (MinutesRecode)	Recoded from original continuous variable. Now uses 10th percentile 0 = 10th Percentile (0-60) 1 = 20th Percentile (61-120) 2 = 30th Percentile (121-150) 3 = 40th Percentile (151-180) 4 = 50th Percentile (181-300) 5 = 60th Percentile (301-390) 6 = 70th Percentile (391-510) 7 = 80th Percentile (511-720) 8 = 90th Percentile (721-1200) 9 = 100th Percentile (1201-6000)

Items and Variable Names	Coding and Comments
31. Size of SNS (FriendsRecode)	Recoded from original continuous variable. Now uses 10th percentile 0 = 10th Percentile (0-100) 1 = 20th Percentile (101-200) 2 = 30th Percentile (201-282) 3 = 40th Percentile (283-323) 4 = 50th Percentile (324-460) 5 = 60th Percentile (461-600) 6 = 70th Percentile (601-800) 7 = 80th Percentile (801-1000) 8 = 90th Percentile (1001-1500) 9 = 100th Percentile (1501-6000)
32. Parents subscribe to SNS (ParentAccess)	0 = Yes 1 = No
33. Hesitant to post because of job (JobHesitant)	0 = Yes 1 = No
34. Most Popular SNS (topSNS)	Recoded from original 38 SNSs that were listed 0 = Facebook 1 = Instagram 2 = Twitter 3 = Other
35. Stole something under $50 (SelfTheftUnder50)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
36. Stole something over $50 (SelfTheftOver50)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
37. Cheated on an assignment (SelfCheat)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times

Items and Variable Names	Coding and Comments
38. Driven under the influence (SelfDUI)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
39. Hit or threatened an intimate partner (SelfPartnerAbuse)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
40. Got Suspended from school (SelfSuspended)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
41. Vandalized or destroyed property (SelfVandalize)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
42. Gambled illegally (SelfGamble)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
43. Used marijuana (SelfMarijuana)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times

Items and Variable Names	Coding and Comments
44. Used hard drugs (SelfHardDrug)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
45. Used prescription drugs (SelfPrescDrug)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
46. Got Drunk (SelfDrunk)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
47. Texted while driving (SelfDriveText)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
48. Carried an illegal weapon (SelfWeapon)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
49. Plagiarized a paper or assignment (SelfPlagiarize)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times

Items and Variable Names	Coding and Comments
50. Started a fight (SelfFight)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
51. Been arrested (SelfArrest)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
52. Bought Drugs (SelfBuyDrugs)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
53. Sold drugs (SelfSoldDrugs)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
54. Set fire to someone's property (SelfFire)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
55. Had more than 5 alcoholic drinks in one sitting (SelfExcessiveDrunk)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times

Items and Variable Names	Coding and Comments
56. Engaged in high risk sexual behavior (SelfRiskySex)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
57. Driven faster than the speed limit (SelfSpeeding)	Frequency of behavior over past 2 years 0 = Never 1 = Once 2 = 2-5 times 3 = 6-9 times 4 = 10+ times
58. Use online social networking (UseSNS)	Computed from variables minutes and top SNS 0 = Yes 1 = No

Appendix D

Frequencies

Table 1

List of Majors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Undecided	30	5.3	5.3	5.3
	Arts and Sciences	196	34.4	34.7	40.0
	Communication and Fine Arts	51	8.9	9.0	49.0
	Education Health and Human Performance	64	11.2	11.3	60.4
	Business and Economics	93	16.3	16.5	76.8
	Engineering	23	4.0	4.1	80.9
	Nursing	72	12.6	12.7	93.6
	Public Health	2	.4	.4	94.0
	University College	34	6.0	6.0	100.0
	Total	565	99.1	100.0	
Missing	Missing	5	.9		
Total		570	100.0		

Table 2

Most Used Online Social Networking Websites

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Facebook	296	51.9	52.1	52.1
	Instagram	127	22.3	22.4	74.5
	Twitter	101	17.7	17.8	92.3
	Google	3	.5	.5	92.8
	YouTube	12	2.1	2.1	94.9
	Plenty of Fish	1	.2	.2	95.1
	Craigslist	1	.2	.2	95.2
	Friendster	1	.2	.2	95.4
	Tumblr	13	2.3	2.3	97.7
	Reddit	9	1.6	1.6	99.3
	LinkedIn	2	.4	.4	99.6
	QQ International	1	.2	.2	99.8
	IG	1	.2	.2	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 3

List of Races

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Caucasian	267	46.8	47.3	47.3
	African American	232	40.7	41.1	88.3
	Native American	2	.4	.4	88.7
	Asian	28	4.9	5.0	93.6
	Other	36	6.3	6.4	100.0
	Total	565	99.1	100.0	
Missing	Missing	5	.9		
Total		570	100.0		

Table 4

How Often SNSs are accessed during a Typical Week

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than once a week	26	4.6	4.6	4.6
	Once a week	19	3.3	3.4	8.0
	2-6 times a week	58	10.2	10.3	18.3
	Once a day	69	12.1	12.3	30.6
	2-5 times a day	178	31.2	31.6	62.2
	6-9 times a day	74	13.0	13.1	75.3
	10+ times	139	24.4	24.7	100.0
	Total	563	98.8	100.0	
Missing	Missing	7	1.2		
Total		570	100.0		

Table 5

Minutes on SNSs per Week

N	Valid	535
	Missing	35
Mean		481.09
Median		300.00
Mode		120
Std. Deviation		628.013
Skewness		3.721
Std. Error of Skewness		.106
Range		6000

Table 6

Minutes Percentiles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10th Percentile (0-60)	82	14.4	14.8	14.8
	20th Percentile (61-120)	79	13.9	14.3	29.1
	30th Percentile (121-150)	21	3.7	3.8	32.9
	40th Percentile (151-180)	46	8.1	8.3	41.2
	50th Percentile (181-300)	75	13.2	13.6	54.8
	60th Percentile (301-390)	21	3.7	3.8	58.6
	70th Percentile (391-510)	56	9.8	10.1	68.7
	80th Percentile (511-720)	56	9.8	10.1	78.8
	90th Percentile (721-1200)	62	10.9	11.2	90.1
	100th percentile (1201-6000)	55	9.6	9.9	100.0
	Total	553	97.0	100.0	
Missing	System	17	3.0		
Total		570	100.0		

Table 7

Number of Friends on SNSs

N	Valid	487
	Missing	83
Mean		687.46
Median		463.00
Mode		1000
Std. Deviation		813.565
Skewness		3.409
Std. Error of Skewness		.111
Range		6000

Table 8

Friend Percentiles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10th Percentile (0-100)	56	9.8	11.1	11.1
	20th Percentile (101-200)	73	12.8	14.5	25.6
	30th Percentile (201-282)	19	3.3	3.8	29.4
	40th Percentile (283-323)	52	9.1	10.3	39.7
	50th Percentile (324-460)	49	8.6	9.7	49.4
	60th Percentile (461-600)	71	12.5	14.1	63.5
	70th Percentile (601-800)	38	6.7	7.5	71.0
	80th Percentile (801-1000)	66	11.6	13.1	84.1
	90th Percentile (1001-1500)	28	4.9	5.6	89.7
	100th Percentile (1501-6000)	52	9.1	10.3	100.0
	Total	504	88.4	100.0	
Missing	System	66	11.6		
Total		570	100.0		

Table 9

SNS Marijuana Use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	162	28.4	28.6	28.6
	Rarely	86	15.1	15.2	43.8
	Sometimes	104	18.2	18.4	62.2
	Often	93	16.3	16.4	78.6
	Very Often	121	21.2	21.4	100.0
	Total	566	99.3	100.0	
Missing	NA	1	.2		
	Missing	4	.6		
	Total	4	.7		
Total		570	100.0		

Table 10

SNS Hard Drug Use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	468	82.1	82.5	82.5
	Rarely	66	11.6	11.6	94.2
	Sometimes	17	3.0	3.0	97.2
	Often	9	1.6	1.6	98.8
	Very Often	7	1.2	1.2	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 11

SNS Prescription Drug Use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	364	63.9	64.3	64.3
	Rarely	88	15.4	15.5	79.9
	Sometimes	69	12.1	12.2	92.0
	Often	23	4.0	4.1	96.1
	Very Often	22	3.9	3.9	100.0
	Total	566	99.3	100.0	
Missing	Missing	4	.7		
Total		570	100.0		

Table 12

SNS Buy Drugs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	338	59.3	59.6	59.6
	Rarely	73	12.8	12.9	72.5
	Sometimes	75	13.2	13.2	85.7
	Often	37	6.5	6.5	92.2
	Very Often	44	7.7	7.8	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 13

SNS Sell Drugs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	368	64.6	64.9	64.9
	Rarely	80	14.0	14.1	79.0
	Sometimes	57	10.0	10.1	89.1
	Often	29	5.1	5.1	94.2
	Very Often	33	5.8	5.8	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 14

SNS Texting While Driving

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	92	16.1	16.2	16.2
	Rarely	99	17.4	17.4	33.6
	Sometimes	167	29.3	29.4	63.0
	Often	108	18.9	19.0	82.0
	Very Often	102	17.9	18.0	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 15

SNS Speeding

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	74	13.0	13.1	13.1
	Rarely	112	19.6	19.8	32.8
	Sometimes	174	30.5	30.7	63.5
	Often	102	17.9	18.0	81.5
	Very Often	105	18.4	18.5	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 16

SNS Driving While Under the Influence of Drugs or Alcohol

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	268	47.0	47.2	47.2
	Rarely	130	22.8	22.9	70.1
	Sometimes	105	18.4	18.5	88.6
	Often	39	6.8	6.9	95.4
	Very Often	26	4.6	4.6	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 17

SNS Stealing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	375	65.8	66.1	66.1
	Rarely	139	24.4	24.5	90.7
	Sometimes	44	7.7	7.8	98.4
	Often	4	.7	.7	99.1
	Very Often	5	.9	.9	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 18

SNS Cheating

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	256	44.9	45.1	45.1
	Rarely	156	27.4	27.5	72.7
	Sometimes	120	21.1	21.2	93.8
	Often	27	4.7	4.8	98.6
	Very Often	8	1.4	1.4	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 19

SNS Plagiarizing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	418	73.3	73.6	73.6
	Rarely	100	17.5	17.6	91.2
	Sometimes	37	6.5	6.5	97.7
	Often	7	1.2	1.2	98.9
	Very Often	6	1.1	1.1	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 20

SNS Suspension

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	309	54.2	54.5	54.5
	Rarely	113	19.8	19.9	74.4
	Sometimes	89	15.6	15.7	90.1
	Often	42	7.4	7.4	97.5
	Very Often	14	2.5	2.5	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 21

SNS Fighting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	199	34.9	35.0	35.0
	Rarely	123	21.6	21.7	56.7
	Sometimes	140	24.6	24.6	81.3
	Often	58	10.2	10.2	91.5
	Very Often	48	8.4	8.5	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 22

SNS Vandalism

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	379	66.5	66.7	66.7
	Rarely	113	19.8	19.9	86.6
	Sometimes	58	10.2	10.2	96.8
	Often	14	2.5	2.5	99.3
	Very Often	4	.7	.7	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 23

SNS Carrying Weapons

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	345	60.5	60.7	60.7
	Rarely	80	14.0	14.1	74.8
	Sometimes	77	13.5	13.6	88.4
	Often	39	6.8	6.9	95.2
	Very Often	27	4.7	4.8	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 24

SNS Arrests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	298	52.3	52.5	52.5
	Rarely	122	21.4	21.5	73.9
	Sometimes	107	18.8	18.8	92.8
	Often	26	4.6	4.6	97.4
	Very Often	15	2.6	2.6	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 25

SNS High Risk Sexual Behavior

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	308	54.0	54.4	54.4
	Rarely	84	14.7	14.8	69.3
	Sometimes	76	13.3	13.4	82.7
	Often	48	8.4	8.5	91.2
	Very Often	50	8.8	8.8	100.0
	Total	566	99.3	100.0	
Missing	Missing	4	.7		
Total		570	100.0		

Table 26

Self-Report Marijuana Use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	384	67.4	67.8	67.8
	Once	32	5.6	5.7	73.5
	2-5 times	66	11.6	11.7	85.2
	6-9 times	11	1.9	1.9	87.1
	10+ times	73	12.8	12.9	100.0
	Total	566	99.3	100.0	
Missing	Missing	4	.7		
Total		570	100.0		

Table 27

Self-Report Hard Drug Use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	558	97.9	98.2	98.2
	Once	2	.4	.4	98.6
	2-5 times	5	.9	.9	99.5
	6-9 times	2	.4	.4	99.8
	10+ times	1	.2	.2	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 28

Self-Report Prescription Drug Use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	502	88.1	88.5	88.5
	Once	19	3.3	3.4	91.9
	2-5 times	27	4.7	4.8	96.6
	6-9 times	4	.7	.7	97.4
	10+ times	15	2.6	2.6	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 29

Self-Report Bought Drugs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	473	83.0	83.4	83.4
	Once	16	2.8	2.8	86.2
	2-5 times	18	3.2	3.2	89.4
	6-9 times	14	2.5	2.5	91.9
	10+ times	46	8.1	8.1	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 30

Self-Report Sold Drugs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	534	93.7	94.0	94.0
	Once	5	.9	.9	94.9
	2-5 times	10	1.8	1.8	96.7
	6-9 times	4	.7	.7	97.4
	10+ times	15	2.6	2.6	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 31

Self-Report Texted While Driving

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	93	16.3	16.4	16.4
	Once	38	6.7	6.7	23.1
	2-5 times	114	20.0	20.1	43.3
	6-9 times	47	8.2	8.3	51.6
	10+ times	274	48.1	48.4	100.0
	Total	566	99.3	100.0	
Missing	Missing	4	.7		
Total		570	100.0		

Table 32

Self-Report Speeding

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	59	10.4	10.4	10.4
	Once	15	2.6	2.6	13.1
	2-5 times	75	13.2	13.2	26.3
	6-9 times	71	12.5	12.5	38.8
	10+ times	347	60.9	61.2	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 33

Self-Report Driven While under the Influence of Alcohol or Drugs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	372	65.3	65.6	65.6
	Once	68	11.9	12.0	77.6
	2-5 times	70	12.3	12.3	89.9
	6-9 times	22	3.9	3.9	93.8
	10+ times	35	6.1	6.2	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 34

Self-Report Got Drunk

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	218	38.2	38.4	38.4
	Once	55	9.6	9.7	48.1
	2-5 times	102	17.9	18.0	66.0
	6-9 times	46	8.1	8.1	74.1
	10+ times	147	25.8	25.9	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 35

Self-Report Got Excessively Drunk

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	291	51.1	51.3	51.3
	Once	56	9.8	9.9	61.2
	2-5 times	87	15.3	15.3	76.5
	6-9 times	33	5.8	5.8	82.4
	10+ times	100	17.5	17.6	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 36

Self-Report Theft under $50

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	474	83.2	83.5	83.5
	Once	48	8.4	8.5	91.9
	2-5 times	35	6.1	6.2	98.1
	6-9 times	3	.5	.5	98.6
	10+ times	8	1.4	1.4	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 37

Self-Report Theft over $50

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	538	94.4	94.7	94.7
	Once	18	3.2	3.2	97.9
	2-5 times	9	1.6	1.6	99.5
	6-9 times	1	.2	.2	99.6
	10+ times	2	.4	.4	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 38

Self-Report Cheated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	280	49.1	49.6	49.6
	Once	117	20.5	20.7	70.3
	2-5 times	120	21.1	21.2	91.5
	6-9 times	24	4.2	4.2	95.8
	10+ times	24	4.2	4.2	100.0
	Total	565	99.1	100.0	
Missing	Missing	5	.9		
Total		570	100.0		

Table 39

Self-Report Plagiarized

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	505	88.6	88.9	88.9
	Once	39	6.8	6.9	95.8
	2-5 times	20	3.5	3.5	99.3
	6-9 times	3	.5	.5	99.8
	10+ times	1	.2	.2	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 40

Self-Report Suspended

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	527	92.5	92.8	92.8
	Once	21	3.7	3.7	96.5
	2-5 times	17	3.0	3.0	99.5
	6-9 times	3	.5	.5	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 41

Self-Report Fought

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	505	88.6	88.9	88.9
	Once	34	6.0	6.0	94.9
	2-5 times	25	4.4	4.4	99.3
	6-9 times	2	.4	.4	99.6
	10+ times	2	.4	.4	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 42

Self-Report Vandalized

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	515	90.4	90.8	90.8
	Once	35	6.1	6.2	97.0
	2-5 times	14	2.5	2.5	99.5
	6-9 times	3	.5	.5	100.0
	Total	567	99.5	100.0	
Missing	Missing	3	.5		
Total		570	100.0		

Table 43

Self-Report Carried a Weapon

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	509	89.3	89.6	89.6
	Once	17	3.0	3.0	92.6
	2-5 times	18	3.2	3.2	95.8
	6-9 times	7	1.2	1.2	97.0
	10+ times	17	3.0	3.0	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 44

Self-Reported Arrest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	535	93.9	94.2	94.2
	Once	26	4.6	4.6	98.8
	2-5 times	5	.9	.9	99.6
	10+ times	2	.4	.4	100.0
	Total	568	99.6	100.0	
Missing	Missing	2	.4		
Total		570	100.0		

Table 45

Self-Reported High Risk Sexual Activity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	429	75.3	76.5	76.5
	Once	35	6.1	6.2	82.7
	2-5 times	39	6.8	7.0	89.7
	6-9 times	14	2.5	2.5	92.2
	10+ times	44	7.7	7.8	100.0
	Total	561	98.4	100.0	
Missing	Missing	9	1.6		
Total		570	100.0		

Multivariate Analysis

Table 46

Multiple Regression Controlling for Access

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfArrest	0.023	Constant	0.047		0.249
		Access	0.003	-0.015	0.722
		SNSarrested	0.052	0.151	0.000
SelfCheat	0.207	Constant	0.171		0.135
		Access	0.081	0.119	0.002
		SNSCheat	0.481	0.423	0.000
SelfAlcoholUse	0.05	Constant	0.587		0.000
		Access	0.079	0.085	0.008
		SNSDUI	0.829	0.649	0.000
SelfFight	0.038	Constant	0.067		0.283
		Access	-0.002	-0.005	0.900
		SNSFight	0.083	0.196	0.000

Table 46

Multiple Regression Controlling for Access

Dependent Variable	R Square	Model	B	Beta	Sig.
		Constant	-0.120		0.821
SelfPlagiarize	0.190	Access	0.015	0.049	0.196
		SNSPlagiarize	0.291	0.431	0.000
		Constant	0.237		0.063
SelfRiskySex	0.164	Access	-0.005	-0.01	0.856
		SNSRiskySex	0.365	0.405	0.000
		Constant	0.092		0.064
SelfSuspended	0.043	Access	0.002	0.006	0.889
		SNSSuspended	0.017	0.042	0.321
		Constant	-0.021		0.642
SelfTheftOver50	0.052	Access	0.012	0.051	0.221
		SNSSteal	0.117	0.218	0.000
		Constant	0.081		0.315
SelfTheftUnder50	0.044	Access	0.028	0.063	0.127
		SNSSteal	0.190	0.195	0.000
		Constant	0.066		0.170
SelfVandalize	0.078	Access	-0.003	-0.01	0.753
		SNSvandalism	0.148	0.280	0.000
		Constant	0.163		0.062
SelfWeapon	0.127	Access	-0.029	-0.06	0.153
		SNSWeapon	0.250	0.358	0.000
		Constant	0.308		0.010
SelfCheat	0.177	Access	0.113	0.166	0.000
		SNSPlagiarize	0.433	0.291	0.000

Table 48

Multiple Regression Controlling for Minutes

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfArrest	0.022	Constant	0.036		0.207
		Minutes	0.000	-0.003	0.948
		SNSarrested	0.052	0.150	0.000
SelfCheat	0.197	Constant	0.396		0.000
		Minutes	0.021	0.058	0.132
		SNSCheat	0.492	0.432	0.000
SelfDeviantDriving	0.157	Constant	1.441		0.000
		minutes	0.000	-0.001	0.982
		SNSDeviantDriving	0.423	0.397	0.000
SelfAlcoholUse	0.040	Constant	1.209		0.000
		minutes	0.011	0.022	0.611
		SNSDUI	0.256	0.195	0.000
SelfFight	0.040	Constant	0.034		0.447
		minutes	0.007	0.039	0.361
		SNSFight	0.081	0.191	0.000
SelfPlagiarize	0.188	Constant	0.042		0.233
		minutes	0.002	0.010	0.788
		SNSPlagiarize	0.293	0.433	0.000
SelfRiskySex	0.160	Constant	0.219		0.012
		minutes	-0.001	-0.001	0.973
		SNSRiskySex	0.365	0.405	0.000
SelfSuspended	0.002	Constant	0.089		0.009
		minutes	0.002	0.015	0.720
		SNSSuspended	0.017	0.041	0.338
SelfTheftOver50	0.049	Constant	0.032		0.284
		minutes	-0.001	-0.008	0.854
		SNSTheftOver50	0.120	0.223	0.000

Table 48

Multiple *Regression Controlling for Minutes*

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfTheftUnder50	0.040	Constant	0.185		0.001
		minutes	0.001	0.006	0.883
		SNSSteal	0.195	0.200	0.000
SelfVandalize	0.078	Constant	0.062		0.054
		minutes	-0.002	-0.017	0.679
		SNSvandalism	0.148	0.281	0.000
SelfWeapon	0.124	Constant	0.067		0.262
		minutes	-0.004	-0.014	0.731
		SNSWeapon	0.246	0.354	0.000
SelfCheat	0.1	Constant	0.596		0.000
		minutes	0.038	0.104	0.011
		SNSPlagiarize	0.439	0.295	0.000

Table 50

Multiple Regression Controlling for Friends

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfArrest	0.028	Constant	-0.002		0.944
		friends	0.009	0.072	0.106
		SNSarrested	0.048	0.139	0.002
SelfCheat	0.222	Constant	0.221		0.010
		friends	0.066	0.171	0.000
		SNSCheat	0.466	0.409	0.000
SelfAlcoholUse	0.065	Constant	0.920		0.000
		friends	0.086	0.163	0.000
		SNSDUI	0.215	0.164	0.000

Table 50

Multiple Regression Controlling for Friends

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfFight	0.041	Constant	0.024		0.618
		friends	0.010	0.051	0.253
		SNSFight	0.079	0.187	0.000
SelfPlagiarize	0.191	Constant	0.011		0.769
		friends	0.009	0.052	0.203
		SNSPlagiarize	0.287	0.426	0.000
SelfRiskySex	0.172	Constant	0.067		0.470
		friends	0.039	0.094	0.028
		SNSRiskySex	0.343	0.380	0.000
SelfSuspended	0.011	Constant	0.039		0.296
		friends	0.015	0.096	0.034
		SNSuspended	0.012	0.031	0.488
SelfTheftOver50	0.051	Constant	0.006		0.850
		friends	0.005	0.038	0.391
		SNSteal	0.117	0.218	0.000
SelfTheftUnder50	0.046	Constant	0.108		0.070
		friends	0.020	0.079	0.074
		SNSteal	0.187	0.191	0.000
SelfVandalize	0.083	Constant	0.011		0.761
		friends	0.010	0.066	0.126
		SNSvandalism	0.143	0.271	0.000

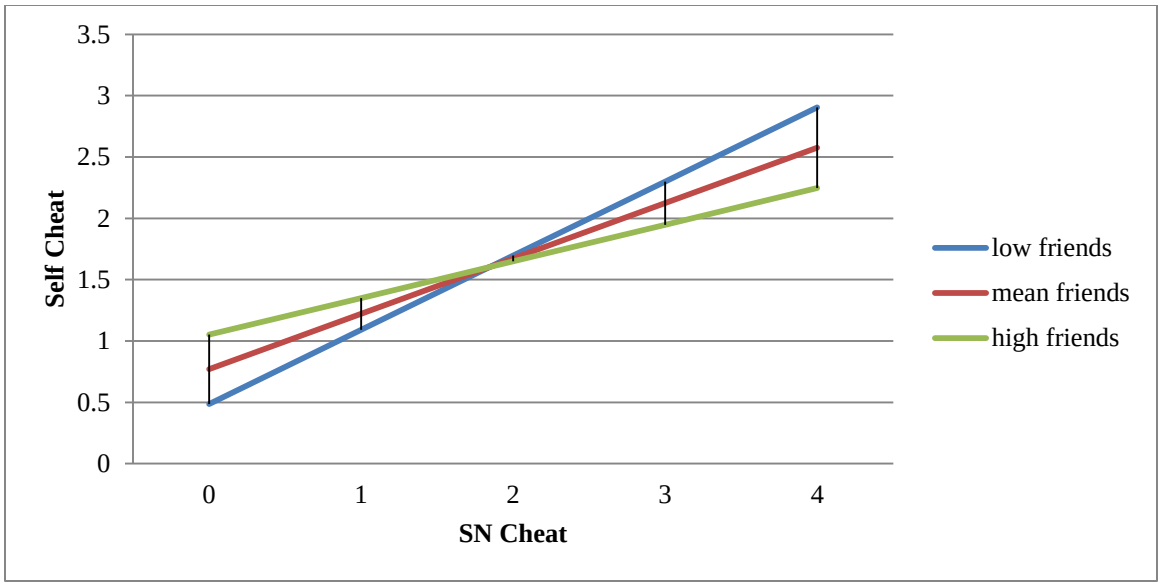

Figure 4. Interaction between Friends and SNS Cheat On Self Cheat

Table 52

Multiple Regression of Cheating with Friend Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfCheat	0.140	Constant	0.341		0.000
		friends	0.098	0.251	0.000
		SNSPlagiarize	0.683	0.460	0.000
		friendsXplagiarize	-0.053	-0.227	0.017

Table 55

Multiple Regression Controlling for Age

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfCheat	0.202	Constant	2.426		0.002
		LNAge	-0.634	-0.095	0.014
		SNSCheat	0.480	0.422	0.000
SelfDeviantDriving	0.158	Constant	1.946		0.013
		LNAge	-0.163	-0.026	0.517
		SNSDeviantDriving	0.419	0.393	0.000
SelfDrugBehavior	0.111	Constant	0.090		0.864
		LNAge	0.008	0.002	0.961
		SNSDrugBehavior	0.206	0.334	0.000
SelfAlcoholUse	0.039	Constant	0.827		0.476
		LNAge	0.139	0.015	0.714
		SNsDUI	0.261	0.199	0.000
SelfFight	0.039	Constant	0.279		0.503
		LNAge	-0.071	-0.022	0.598
		SNSFight	0.082	0.193	0.000
SelfRiskySex	0.164	Constant	0.877		0.312
		LNAge	-0.216	-0.030	0.446
		SNSRiskySex	0.362	0.401	0.000
SelfSuspended	0.003	Constant	0.308		0.376
		LNAge	-0.068	-0.026	0.546
		SNSSuspended	0.015	0.038	0.382
SelfCheat	0.109	Constant	3.644		0.000
		LNAge	-0.946	-0.141	0.000
		SNSPlagiarize	0.421	0.283	0.000

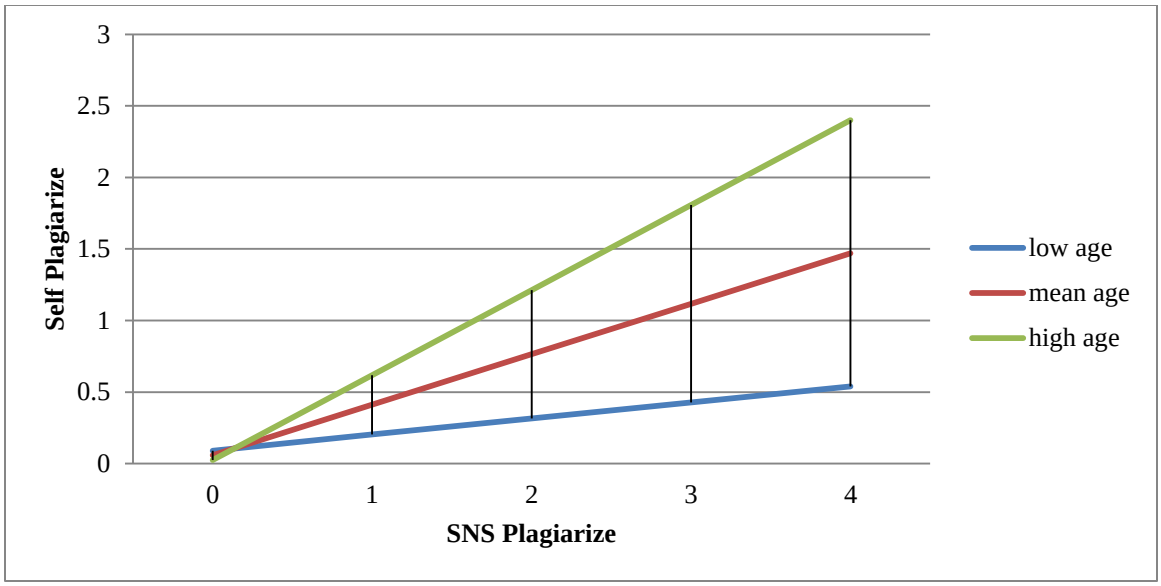

Figure 8. Interaction between Age and SNS Plagiarizing On Self Plagiarizing

Table 57

Multiple Regression of Plagiarizing with Age Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfPlagiarize	0.229	Constant	0.660		0.070
		LNAge	-0.198	-0.065	0.096
		SNSPlagiarize	-4.009	-5.936	0.000
		LNageXplagiarize	1.434	6.366	0.000

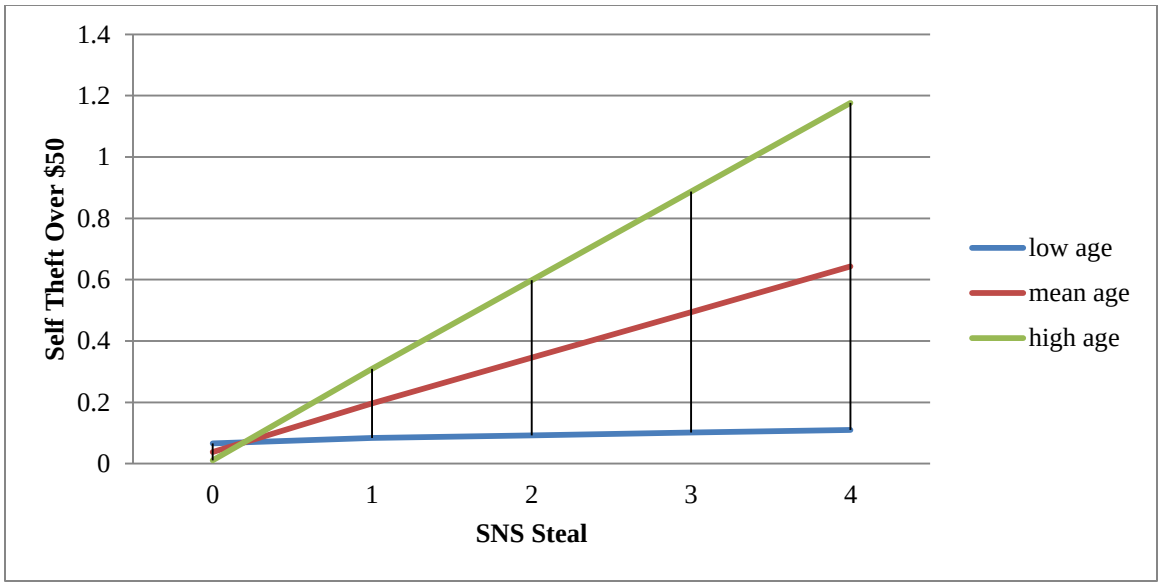

Figure 9. Interaction between Age and SNS Stealing Predicting Self Theft over $50

Table 58

Multiple Regression of Theft Over $50 with Age Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfTheftOver50	0.101	Constant	0.540		0.093
		LNAge	-0.165	-0.069	0.117
		SNSSteal	-2.391	-4.434	0.000
		LNageXsteal	0.835	4.657	0.000

Figure 10. Interaction between Age and SNS Stealing Predicting Self Theft under $50

Table 59

Multiple Regression of Theft under $50 with Age Interaction

Dependent Variable	R Square	Model	B	Beta	Sig.
SelfTheftUnder50	0.078	Constant	1.799		0.002
		LNAge	-0.523	-0.121	0.007
		SNSSteal	-3.562	-3.649	0.000
		LNageXsteal	1.248	3.845	0.000