

LIFE UNFILTERED: SOCIAL CONTROL THEORY IN THE AGE OF SOCIAL MEDIA  
AND SUBSTANCE ABUSE

---

A Thesis

Presented to

The Faculty of the Department of Criminal Justice and Criminology

Sam Houston State University

---

In Partial Fulfillment

of the Requirements for the Degree of

Master of Arts

---

by

Teri L. Ford

December, 2017

LIFE UNFILTERED: SOCIAL CONTROL THEORY IN THE AGE OF SOCIAL MEDIA  
AND SUBSTANCE ABUSE

by

Teri L. Ford

---

APPROVED:

Jurg Gerber, PhD  
Thesis Director

Yan Zhang, PhD  
Committee Member

Phillip Lyons, PhD  
Committee Member

Phillip Lyons, J.D., PhD  
Dean, College of Criminal Justice

## ABSTRACT

Ford, Teri L., *Life unfiltered: Social control theory in the age of social media and substance abuse*. Master of Arts (Criminal Justice and Criminology), December, 2017, Sam Houston State University, Huntsville, Texas.

Hirschi (1969) may have never used Social Media, received a Like or Re-Tweet or posted a heart-felt emoji, but his Social Control Theory may be affected by the actions of Social Media and its users. Hirschi's Social Control Theory purports to explain why individuals choose to follow the rules and accept the norms of society. Hirschi postulated that there are four components in normal social systems that instill boundaries and social mores into the psyche of young adults. These four components, attachment, belief, commitment, and involvement are the four elements of social control that prevent individuals from committing crimes. If these components are diminished or eroded, it is possible that young adults may develop a system of beliefs that run contrary to the values of the society they were brought up in. Could Social Media as a dynamic environment somehow contribute to the unfiltered behavior of many members of society who are habitual or excessive users of sites like Facebook and Twitter? The question asked is whether social media promote deviance in young adults, particularly substance issues such as cigarette smoking, underage drinking, and marijuana use. The researcher hypothesizes that excessive Social Media use is eroding the components of Hirschi's theory, particularly attachment, belief, and commitment, and that this erosion is increasing deviant habits and attitudes among excessive Social Media users.

**KEY WORDS:** Social Control Theory, Travis Hirschi, Social Media, Facebook, Twitter, Instagram, Underage Drinking, Marijuana Abuse, Underage Cigarette Smoking, Substance Abuse, Social Learning, Social Dynamics.

## **ACKNOWLEDGEMENTS**

I would like to thank my committee members who were very giving of their advice and precious time throughout my thesis process. I am very appreciative of my committee members unwavering guidance and the patience they have shown me. A special thanks to Dr. Jurg Gerber, my committee chair for his patience, and many hours of reading, editing and encouraging me throughout this process. Thank you, Dr. Yan Zhang, and Dr. Phillip Lyons, for agreeing to serve on my committee and offering your knowledge and experience.

## TABLE OF CONTENTS

	<b>Page</b>
ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES.....	vii
CHAPTER	
I INTRODUCTION .....	1
Relevance of Research.....	6
Research Questions.....	7
II LITERATURE REVIEW .....	8
Social Media .....	15
Summary.....	31
Hypotheses.....	33
III METHODOLOGY .....	34
Data source.....	34
Sample.....	35
Dependent Variables.....	35
Independent Variables .....	36
Control Variables.....	38
IV RESULTS .....	44
Models.....	46
Smoked Cigarettes in the Past 30 days .....	46

Drank Alcohol in The Past 30 days .....	49
Used Marijuana in the Past 30 days.....	52
V DISCUSSION AND CONCLUSION.....	55
Limitations of the Study.....	55
Policy and Practice Implications.....	56
Discussion.....	57
Future Research .....	58
Conclusion .....	59
REFERENCES .....	60
APPENDIX.....	69
VITA.....	70

## LIST OF TABLES

<b>Table</b>		<b>Page</b>
1	Descriptive Table .....	42
2	Correlation Matrix .....	45
3	Logistic Regression Model 1 & Model 2 Smoking Cigarette 30 Days .....	48
4	Logistic Regression Model 1 & Model 2 Drank Alcohol Past 30 Days .....	51
5	Logistic Regression Model 1 & Model 2 Using Marijuana 30 Days .....	54

## CHAPTER I

### Introduction

Travis Hirschi, one of the fathers of the Social Control Theory, may have never received a “Like” or a “Follower” on either Facebook or Twitter, yet, Hirschi’s theory may be redefined in the most unusual of control mechanisms, the world of digital media. Consider the hypothesis of Gibbs (1987), who postulated that social control must involve three parties. One or more of the parties intend to manipulate the behavior of another by or through a third party (Gibbs, 1987). Extrapolate Gibbs hypothesis to a point in which the third party is the faceless persona of social media. If Gibbs hypothesis can be applied to social media, the observed manipulation of the users may present a corrosive environment that could rapidly erode the normal social bonds in society (Bennet, 2012).

Hirschi presented his theory in his 1969 book entitled, *Causes of Delinquency*, which is one of the most heavily cited and criticized works in modern criminology (Barkley, 1997). Subjected to hundreds of empirical tests, the social control theory is one of the most widely validated explanations of delinquent behavior (Arneklev, Harold, Tittle & Bursik, 1993). The central question of the theory asks why people follow the law. Hirschi’s definition of social control theory helps predict when social constraints are weakened to a point where delinquent behavior manifests (Hirschi, 1969). Rather than stressing causative factors in criminal conduct, Hirschi postulates why people obey rules instead of breaking them (Barkley, 1997).

Social Control theory establishes a strong prima facie argument that people in a society commit delinquent or criminal acts because of the weakness of the forces restraining them, not because of the strength of forces driving them to do so (Schreck,



Stewart, & Fisher, 2006). Hirschi believed that social controls, like arrest, imprisonment, loss of income, etc. increase the costs of deviant behaviors to the point that they are not palatable to reasonable members of society (Hirschi, 1969). In retrospect, Hirschi's logic relies on a simple observation: when an individual has experienced a lack of social connections or network of social support the likelihood that the individual will participate in criminal activity increases (Daly, 1989).

Hirschi (1969) describes four elements of social constraints that help regulate people:

*Attachment*-The internalization of norms, conscience, and empathy are determined by an individual's attachment to others. Hirschi assumes this acts as the primary motive for people to obey and follow laws as prescribed by society (Hirschi, 1969).

*Commitment*-People obey rules for fear the consequences of breaking them. In Hirschi's model commitment is the stick in the carrot/stick analogy (Hirschi, 1969).

*Involvement*- This describes how a person's investment of time and labor in conventional social activities can bind that person to the normal order of society. Hirschi argues that an individual involved heavily in social causes and activity simply does not have time or energy to engage in deviant behavior (Hirschi, 1969).

*Belief* - according to Hirschi, belief plays a role in deviance in two ways. The criminal either a) disregards the beliefs he/she has been taught entirely or b) rationalizes their deviant behavior so that they can engage in criminal activity and still believes that their conduct is wrong. This subset involves the strain theory in that it demonstrates an individual's belief in common goals and the morals of society, but it can also highlight a

lack of individual means for achieving those goals, which in turn encourages deviant behavior as a justifiable means to an end (Hirschi, 2001).

Although social control theory is not without its critics, it would be difficult to overstate the influence of Hirschi's model on modern criminology (Cochran et. al., 1989). However, some recent longitudinal research suggests that previous studies may have exaggerated the importance of Hirschi's social control theory when applied to new social dynamics (Berry, Ones, & Sackett, 1997). It has been argued in previous studies that some types of longitudinal research can suffer from general limitations, such as (a) measures of questionable validity and/or reliability; (b) miss-applied causal models, including models that omit important variables and fail to examine the reciprocal and contemporaneous effects between independent variables; and (c) the failure to consider certain methodological problems such as auto-correlation (Heiman, 1997). Most of these limitations can reduce the likelihood of finding a causal effect that correlates social control to delinquency without necessarily changing some or all of Hirsch's elements based on the data observed (Berry, Ones, & Sackett, 1997).

While the social control theory is well known in criminological research, its impact in society is dwarfed by social media, which have in only a few years become an indispensable aspect in our daily lives. Ariel, & Avidar (2014) have suggested that social media are the fundamental change agents in our society's norms for individual interactions. Moreover, the argument that social media are changing our cultural paradigm does have a historical precedent in the form and function of radio in the American society of the 1930s (Schau, & Gilly, 2003). In the 1930s, the United States was in the grips of the Great Depression, in which thousands of banks failed, a third of

the nation was unemployed, and many citizens believed that society was collapsing (Craig, 2000). Radio was a cutting-edge form of mass media that was used by political leaders, notably President Franklin Roosevelt, to help support the American citizens and unify the collective belief in American exceptionalism and determination in a crisis period (Craig, 2000). Roosevelt utilized the *Fireside Chat* or evening radio address to deliver talking-point speeches to inform and galvanize public support for policy changes (Craig, 2000). More importantly, Fireside Chats became a social bonding tool that brought people from across the nation together in a purpose driven mechanism to create a moral imperative and calls to action (Ryfe, 2001).

Fast forward 80 years and digital media have replaced radio as the tool of mass communication. The caveat being the social conversation, which instead of uniting and uplifting society as radio did in the 1930s, may be acting as a divisive mechanism that creates distrust, ambivalence for authority, and antisocial feelings among social media users (Dhami, 2012). Early innovators envisioned digital media as computer-mediated tools that would allow people to create, share or exchange information, and ideas in virtual communities and networks without abandoning their real-world peers or community. The rationale behind digital media reflects this concept, in that the architects sought to create an on-line oasis of free thought that would build on the foundation of personal empowerment from real-world dialogue and conversations amplified across social media. (Shirky, 2011).

However, the architects behind digital media never considered that people might abandon their real-world relationships for digital ones. With the advent of more interactive social media sites such as Facebook.com and Twitter, digital media launched

into the unexplored concept of digital relationships that could exist without physical bonding or social constraints (Shirky, 2011). For the first time, individuals began interacting with other people and groups who had similar interests but dissimilar demographic and geographic identities. Initially, many researchers believed that this type of interaction would offer a supportive multi-cultural environment. However, recent data suggest that participants may, in fact, be using social media to limit the association to set groups with specific biases (Ariel, & Avidar, 2014). This type of “Gated Community–effect” draws potentially anti-social individuals to social media for emotional support. However, this support mechanism may erode important social bonds that can enhance, isolate, and anger users (Ariel, & Avidar, 2014). Ostensibly, Ariel, & Avidar’s study suggests that social media can cause real-world problems as they often disrupt the normal patterns of social bonding that are pivotal to Hirschi’s theory (Brownfield & Sorenson, 1993). Some of these views are summarized by Marche (2012) social media provide more breadth, but not the depth of relationships that humans require leading to a higher incidence of anti-social behaviors.

If prior sociological definitions apply, then the social sentiment is dependent upon a confirmation bias to provide an echo chamber as a tool to bend the reality of social controls. An example of such an event unfolded on Monday, October 26, 2015, at Spring Valley High School in Columbia, South Carolina (Duffy, 2015). During a high school class, a student was reprimanded by the teacher for repeatedly using her cell phone to text and chat. The girl refused and defied orders from the teacher and an administrator to leave the classroom. In an escalation, the high school resource officer responded to the class, and an incident occurred between the student and uniformed officer that was filmed

and edited by the student's classmates and posted on social media sites including Facebook and YouTube (Duffy, 2015). The videos of the altercation went viral, and the social media world applauded a sixteen-year-old student's defiance and condemned the actions of the teacher, administrator and resource officer in a redacted snippet of the entire incident. From the standpoint of criminological theory, the girl's actions and the subsequent reactions of social media users and the general public leave little doubt that the social control theory is at crossroads.

### **Relevance of Research**

Digital media are far more than just outlets for a chat and online conversations; they are arguably a fundamental change agent in our society's norms for individual interactions (Ariel, & Avidar, 2014). As digital media continue to grow in almost every segment, the idea that social media are a passing fad is no longer worthy of consideration as more and more demographics move toward sustained use that may be changing how people interact and how they are bonded to their peers and society as a whole. Social media are far more than just a means to communicate digitally. They represent a foundational change in how we interact with our peer groups. Historically, subsequent generations in our society have transitioned from writing letters, to talking on home phones, to texting on cellular devices. Each one of these changes have reorganized our abilities to articulate feelings and emotions among peers. With each evolution, our society has become less formal and restrained in its behaviors regarding what is and is not socially acceptable behaviors. Social media are an unfiltered outlet compared to our past methods of expression. The purpose of this research is to study how people rationalize right from wrong in social media to determine if it is eroding the basic

elements of the social control theory creating a generation of highly deviant and delinquent youth.

### **Research Questions**

The general observations of prior research efforts have suggested that young adults and adolescents today are more exposed to deviance at an early age and through digital media that are outside the prevue of their family or peer groups. If impressionable adolescents are progressively exposed to ideas and activities that promote deviance, does this increase their participation or attitudes towards these behaviors? Consequently, the following research question is posed: Can obsessive social media activities expose young people to ideas and views that undermine their normal social controls to the point that they become more likely to embrace deviance and delinquency, specifically regarding smoking cigarettes, drinking alcohol and marijuana use?

## CHAPTER II

### Literature Review

The empiricist philosopher John Hume suggested that too much of a good thing inevitably leads to something bad (Stewart, 2014). For decades, sociologists, psychologists, and criminologists have tried to explain delinquent acts. However, despite their continuous efforts, an indisputable explanation has not yet surfaced. Central to many aspects of this debate of Social Control Theory, which has been documented as one of the most frequently researched and discussed criminological theories. Much has been written about paradigm shifts within society, especially in recent decades, which have witnessed various changes in people's behavior (Nylund, Asparouhov, & Muthén, 2007). With the advent of digital technology, a dizzying array of viewpoints, objectives and social constructs in the realm of social media can change social opinions in the blink of an eye (Nylund et al., 2007). The following literature review of some of the more recent developments on social control theory may shed light on the ramifications of social media and help provide analytical value in the history of relevant interactions on the topic. Social media create a unique incubator for human personality, which directly impacts Hirschi's social control theory.

The idea that social environment influences delinquency flourished in the late 1960s, and Hirschi developed his Social Control Theory during this period of social examination. Today, Social Control Theory is arguably one of the leading explanations of delinquency. Most criminological theories ask why people commit crimes, but Hirschi's theory is different in that it asks why people do not commit crimes or acts of delinquency. The theory assumes that individuals are inherently motivated to deviate,

and they will do so unless they are restrained by strong bonds to society (Hirschi, 1969). Social Control Theory posits that individuals will be deviant if they are lacking social bonds in their lives.

Hirschi's social control theory implies delinquency is intrinsic to human nature. Hirschi believed that conformity occurs through socialization, expressed in the theory by the acceptance of a bond between an individual and society, which was comprised of four major elements: attachment, commitment, involvement, and belief. All four of these elements are what make up the social bond, and the stronger each of these four elements are, the less likely the individual will be to partake in delinquent behavior. Hirschi's theory proposes that the weaker an individual's bonds are, the more likely they are to commit acts of delinquency.

The first element of the social bond is the *attachment*. Hirschi effectively uses the example of psychopathy to explain how attachment ground individuals into conformity. Previous efforts by Psychologists including Gibbs and Martin (1964) have suggested that psychopathic personalities have a deficient attachment to or affection for others, a failure to respond to the ordinary motivations founded in respect for other people or their individual value. While most scholars would say that the characteristics of the psychopath come because of his lack of attachment, or that his lack of attachment comes as a result of his psychopathy, Hirschi argued that a psychopath's lack of attachment to others freed them from their moral restraints. The lack of attachment to others is the same thing as lack of conscience or empathy (Hirschi, 1969). The second element is that of *commitment*. Hirschi believed that commitment is directly correlated and proportional to conformity. The logic is self-evident, people have been known to obey the rules for no



other reason than because they were afraid of facing the consequences. Hirschi's argument advances that people obey rules because of their commitment to conventional plans of action that predicate their actions within the acceptable confines of society. Therein, commitment is a rationalization of the person self-interest to improve themselves. To improve their lives, people will invest their time and efforts in areas like education and work to achieve personal gain.

Although not as important regarding delinquency in the social control theory, *involvement*, and *belief*, do support Hirschi's approach. Involvement is plain and simple; if somebody spends a great deal of time doing conventional things, then they will not have time to engage in delinquent behavior. For example, a high school student committed to being admitted into a prestigious college necessarily is involved extensively in conventional activities. Moreover, belief is the acceptance of the moral validity of the central social-value system. The more rule-bound people feel, the less likely they are to commit a crime or violate those rules (Hirschi, 1969). However, Hirschi's approach helps us understand how people can accept a dominant set of rules, and yet still commit deviant acts. Logically, in all people each of the four elements are not equal, leading some people to be more prone towards deviance, while others would never even consider a deviant act.

In context of face validity, many scholars would argue that social control theory lacks explicit definitions. In first examining the empirical research that has been conducted regarding Social Control Theory, one finds partial support and vindication for the theory's basic assumptions when applied to modern societies. However, several prominent research efforts have studied Hirschi's four elements of the social bonds and

have eliminated or added parts that they thought would improve the theory's utility. For instance, Krohn and Massey (1980) suggested that the measure of parental involvement was overstated. They found that commitment was the most powerful predictor while attachment was the weakest predictor of delinquency. Their findings suggest more than just the adaptability of the social control theory; they posit the potential for shifts within the hierarchy of the components.

Unfortunately, these findings are incompatible with those of Gardner and Shoemaker's (1989) who found that the greater the number of unconventional peers, the greater the reported involvement in delinquency. However, the relevance of the methodology of this study must be taken into account because Gardner and Shoemaker used a different measurement of attachment, with a distinction between conventional and unconventional peers (such as social media peers). The study also found that conventional beliefs and attachment, especially to adults, had more influence on delinquency than either involvement or commitment.

Supporting the findings of Gardner and Shoemaker (1989), Junger and Marshall (1997) who found that attachment was the most significant aspect of the social bond especially in young boys. They measured attachment through the lens of the respondent's commitment to their education (i.e. doing homework, extra-credit, test preparation, and involvement in scholastic organizations). Junger and Marshall's key control variable was unconventional peers that demonstrated anti-social/deviant behavior. They hypothesized that having friends who are troublemakers or who come into contact with police was related to the likelihood of being involved with delinquency which would manifest as a poor example of attachment for their peers.

The findings of Gardner and Shoemaker (1989), Junger and Marshall (1997), and Krohn and Massey (1980) are in conflict with Hirschi's argument that attachment to peers can control delinquent tendencies. Hirschi suggested that the stronger the attachment, the less likely he or she would tend to be delinquent. Hirschi argued that "The more a boy respects his delinquent associates, the less likely he is to commit delinquent acts" (Hirschi, 1969: 152). Hirschi's rationale for this seems to be incompatible with the concept that we honor those we admire not by imitation but by adherence (Hirschi, 1969: 144 & 152). Hirschi's argument seems to defy logic in this context.

Expanding on this supposed weakness, Vitaro, Brendgen and Tremblay (2000), refute Hirschi's claim that the stronger the bond to peers, whether they are delinquent or not, diminishes delinquency. Additionally, they suggest that Hirschi's claim that parental attachment is the most important social bond cannot be empirically substantiated. In contrast, Vitaro, Brendgen and Tremblay suggest that peer attachment is the most influential predictor of delinquency, especially in older adolescents. They found that attachment to parents and parental monitoring had marginal effects on delinquent behavior. The data from this study demonstrate that affiliation with deviant friends usually leads to delinquent behaviors. Logically, this finding could be explained as the progression from childhood to adulthood in which young people strive to achieve intimacy, closeness and trust of their fellow peers. As adolescents separate themselves from their parents, they distance themselves from the social control of their family unit while seeking to integrate into a peer group that may represent ideas or beliefs that are counter to the social mores espoused by their parents (Engels and Bogt, 2001).

From this research perspective, attachment to peers is more important than parental influence. Freeman and Brown (2001) examined the nature of adolescent attachment to parents and peers. They suggest that a hierarchy of attachment exists, and there is one “primary attachment figure” to whom a young person will look to as their capstone of social inclusion. Freeman and Brown believe that this primary attachment figure will most likely be a close friend rather than a parent because society rewards personal independence. They found that a close peer will replace a parent at the top of the attachment hierarchy and parents lose most-favored status during later adolescent years in which personal independence from the family unit is just starting to develop (Freeman and Brown, 2001: 654).

However, as Hirschi suggested, attachment to parents is most important in early adolescents. Marcus and Betzer (1996) found that for both boys and girls, attachment (or lack of attachment) to one’s father was the best predictor of antisocial behavior. Moreover, Marcus and Betzer found that particularly with boys, attachment to peers was influenced directly by the amount and type of parental attachment (Marcus & Betzer, 1996). These results are consistent with Hirschi’s claim that the components are all interrelated and adaptable to new social environments such as the domain of social media.

Hirschi’s assertions excluded girls from his generalization, which raises a very important question; is social control theory gender neutral or gender biased? Holmes and Ostresh (1999) examined differences in adolescent boys’ and girls’ level of attachment to their parents and peers. They focused on the effects of these attachments on the severity and frequency of self-reported acts of delinquency. They found that attachment to

parents reduced boys' frequency of delinquent acts while attachment to peers reduced girls' severity of delinquency (Anderson et al., 1999). They also suggested that adolescent girls reached social maturity much sooner than adolescent boys, which would explain why girls were more prone to peer influences at earlier ages, while boys relied more on the influences of the family unit into their late teens. Holmes and Ostresh (1999) suggested that gender is neutral when applied to participant age and maturity, but they did not assess the data longitudinally to determine if adolescent boys developed similar attachment levels with increased age.

Previous research efforts indicated that different rates of delinquency among genders do exist, however, those rates may be dependent more on societal tolerance for the misconduct of women than men. Akers (1997) suggests that lower female delinquency rates are due to closer parental supervision of young women. However, the faster maturity of young women may explain why severity of delinquency with peer attachment is so important in terms of gender evolution of social controls. If Akers assumption is correct, then peer attachment dictates how women view delinquency within their peer groups.

More recent research includes the integration of other theories that may be more relevant to the application of the social control theory in the context of social media. Beaver, Wright, and DeLisi (1999) focused on four types of bonds: specifically, bonds with delinquent peers, bonds with school, work, and the family. They found that incidences of delinquency manifested in the respondents during late adolescence and continued through adulthood. Participants developed delinquent tendencies that

diminished the individuals' bonds to society and resulted in a greater likelihood of future delinquency throughout their adult lives.

Similarly, Nakhaie et al. (2000) created and integrated an index of social control that included peer attachment, parental involvement and commitment to school. They found that the strength (or lack of strength) of an adolescent's social control may be a life-long attribute. Another important finding that emerged out of their study was that involvement with parents, followed by school commitment, had the strongest predictive power for all types of delinquency, which is also supported by the prior research of Krohn and Massey (1980).

### **Social Media**

How are social media related to social control theory? By extrapolation, Hirschi's theory can be extended into the realm of social media because in many single parent, working households, the parents have been mitigated to the status of observers and not role models. In such a social environment, adolescents may seek acceptance and approval they are not receiving at home from cyber-space. O'Keefe & Clarke-Pearson (2011) documented the effects of social media on children and suggested that social media have become the unfiltered guardian of young adolescents. They also suggested that children and young adolescents who were exposed to social media in an unsupervised environment could develop long-term anti-social behaviors (O'Keefe & Clarke-Pearson 2011). The case studies reported social inadequacies, low self-control, contrived self-images, and self-worth that were fixated on the social media mechanisms of "likes" (O'Keefe & Clarke-Pearson 2011). If O'Keefe & Clarke-Pearson are correct in their assumptions, young adolescents who are heavy social media users may possess

diminished attachment and involvement bonds explaining some of the perceived increases in adolescent delinquency.

According to Kramera, Guillory, and Hancock (2014), studying social media utilization trends has become a macroscopic exercise. They observed social media data on user involvement with a single social media site, Facebook. They reported that over 1.5 billion people have Facebook accounts worldwide and nearly 80% of those individuals log on daily (Kramera et al., 2014). Of more relevance, they found that almost 22% of Facebook users log onto their individual accounts at least 4 times daily and spend an average of one-hour updating posts and status (Kramera et al., 2014). Among 18-to-34-year-olds, nearly half (48%) check Facebook minutes after waking up and 28 % do so before getting out of bed (Kramera et al., 2014). Social media put an interesting lens on the creation of the self-image in society, and how our digital persona's construction either support or undermine our social bonds.

While their findings may appear overwhelming, the capacity of social media sites like Facebook, which became the first web site to receive 1 trillion-page views in a month, cannot be discounted (Kramera et al., 2014). If a high-traffic site such as Facebook reaches more than a billion individual users, the potential to introduce emotional contagions on an epidemic level must be considered (Guillory, 2011). For example, in the first three months of 2011, Facebook users generated an average of 2.7 billion "likes" and comments each day (Guillory, 2011). Researchers have found that up to 80% of social media posts are announcements about people's own personal experiences, which are limited to areas of inter-social activity that can rapidly spread both positive and negative emotions (Kramer, 2012). Kramer (2012), and Kramera et al.,

(2014) concluded that human psychology in social networks was pervasive and shaped by the influences of others in their social group. For example, if positive status updates were reduced, people produced fewer positive posts and more negative posts; when negative updates were reduced, the opposite pattern occurred (Kramer et al., 2014). These results indicate that emotions expressed by others on Facebook influence our own emotions, constituting experimental evidence for massive-scale contagion via social networks that could effectively be undermining aspects of Hirschi's social bonds directly.

Gardner and Shoemaker (1989) and Junger and Marshall (1997) have observed that the elements of attachment and involvement may not directly affect individual beliefs. However, Hirschi suggested that personal beliefs could be affected by individual emotional states. In an effort by Fowler and Christakis (2008), social media data suggested that the emotional states of users could be transferred to other users just like a virus, by digital contact. The researchers dubbed the term emotional contagion to describe how social media users share and are affected by other user's moods and attitudes. Fowler and Christakis suggested that many people sharing the same emotions repeatedly on social media could create a type of emotional tidal wave that could affect real world personal beliefs.

Supporting some elements of Fowler and Christakis observations, Reed and Yeager (1996) suggested that social media may be providing something our brains really want: the opportunity for individuals to foster seeking behaviors outside normal peer groups. While Reed and Yeager (1996) suggested that some aspects of social media are healthy for users, Fowler & Christakis (2008) argued that the relationship is much too dangerous. Fowler & Christakis posited that people's longer-lasting moods extend up to



three degrees of separation (for example, to the friends of one's friends' friends) and over time start to affect personal beliefs. In this model, seeking behaviors are the consistent drivers in emotional contagions moving through social media and digital networks (Fowler & Christakis, 2008).

While Fowler & Christakis' conclusions are controversial, they show that the apparent, high incidence of addiction to social media can be linked as Kramera et al. (2014) suggested, to our psychology as an expression of our primitive hunter-gatherer nature. In a cognitive analogy, a social media site like Facebook offers its users the ability to search (like) and collect (friend) a captive supporting audience. The process activates the hunter-gatherer instinct and gives the user an emotional feeling of self-worth and acceptance that is short lived and clinically unfulfilling (Kramera et al., 2014).

This is extremely relevant to the long-term beliefs of the individual. Kramera et al. (2014) also suggested that the perception of Facebook and other sites such as Twitter were being considered an important resource for social connections by the majority of their users. Some studies have found that the more social media users engage on the network, they tend to spend more time fixated on social media and not on real world relationships and social bonds (Rosenquist, Fowler, & Christakis, 2011).

Other research efforts have also suggested that extended use of social media can lead to other antisocial activities including cyber aggression, sexting, and even sleep deprivation among adolescents and young adults (Kramera et al., 2014). Several clinical organizations, including the American Medical Association and the American Psychological Association are currently evaluating the possibility of classifying social media as an addiction with a certifiable medical condition (Kramera et al., 2014).

Consequently, user attraction to social media is vanity based; and when achieved has a short-term emotional effect that can become habitual. Users report that being on the short end of someone's social media endorsements can create feelings of anxiety, inadequacy, and irritation that can eventually manifest as a clinical form of depression (Turkle, 2011). Turkle has suggested that in contrast to prevailing assumptions, in-person interaction and nonverbal cues are not strictly necessary for the spread of negative feeling and emotions that can infect an entire group (Turkle, 2011). If social media promote an addictive sort of reality for its users, the potential of an emotional contagion to spread to the real world is certainly a possibility that would be played out as a diminished amount of commitment from the social media users in their real-world peer groups.

In retrospect, one of the most troubling statistics for young adult and adolescent social media users is found in Fowler & Christakis' (2008) data: a finding that correlated addictive personality compulsions and persistent social media use (Bennett, 2012). Supporting this finding, Cohen-Cole and Fletcher found that over 25% of Facebook and Twitter users reported early signs of clinical depression and compulsive addictive behaviors (Cohen-Cole & Fletcher, 2008). They believed that because two individuals are directly connected, they might negatively influence each other for a variety of reasons that could lead to impulsive or compulsive behaviors (Cohen-Cole & Fletcher, 2008). Furthermore, they also suggested that almost 35% of Facebook and Twitter users surveyed demonstrated an obsessive compulsion (based on a sensation of pleasure) from their social media activities (Cohen-Cole & Fletcher, 2008). They argued that social media attracts people who may already possess precursory obsessive-compulsive

disorders, who readily develop a digital self-image that must be habitually satisfied, thus social media users become social media addicts (Bennett, 2012).

However, how exactly could social media be an addiction? As an addictive agent, social media most likely mimics the effects of the limbic system, which is the built-in reward system for the brain (Endler & Magnusson, 1976). Normal neurologic functions depend on the limbic system to encourage you to do the things you absolutely must do to survive and remain healthy (Barkley, 1997). For example, the limbic system in the brain is activated when one eats and leads to a feeling of pleasure. To create this feeling of pleasure, the brain releases a neurotransmitter such as dopamine, which is a chemical messenger that stimulates the brain (Endler & Magnusson, 1976). Neurotransmitters travel between neurons (nerve cells in the brain), being released by one cell and then attaching to a receptor on another cell (Short, William, & Christie, 1976). The neurotransmitter is like a jigsaw puzzle piece, which only fits into specific slots. When this connection is active, one feels a sensation of pleasure, and then it is taken back to the original neuron to shut off the signal and dissipate the pleasure (Short, William, & Christie, 1976). Over time, the desire of the body and mind for pleasure or fulfillment becomes a driver for addictive behaviors (Barkley, 1997).

While the previous efforts have chronicled the general risks of social media, specific studies have shown that young adults are particularly vulnerable. Of note, Schau, & Gilly (2003) studied the social effects of the cyber-society (instant messaging, cyber-chat, blogging and social media) on young adult users. They hypothesized that extended cyber-society use affected Firestone's critical inner voice (Schau, & Gilly 2003). Schau and Gilly believed that intensive use of digital devices and media skewed the dynamic

that exists as a negative filter through which a normal person views life and personal decisions (Schau, & Gilly 2003). They theorized that the voice is created during times of stress or trauma during early adolescence and can be influenced by both positive and negative stimuli (Schau & Gilly, 2003). In context, digital devices and particularly social media are most common today, and may be extremely pervasive in the creation of excessive negative stimulus among young adults that could trigger changes in the critical inner-voice (Schau & Gilly, 2003). Conceptually, social media users have an idealized persona they construct and put out to the cyber universe, which may conflict with their real-world identity and how they are tied to the social norms of their society (Barlow, 1991).

Schau and Gilly's finding may help correlate why depression is seen in many young social media users (Kramera et al., 2014). The desire of most individuals to be seen positively has instilled a desire in social media users to silence their troubles behind a mask of contrived happiness (Kramera et al., 2014). However, this tendency is very dangerous to active social bonds, and its effect on individual social norms can be devastating. Baumeister (2002) suggested individuals who actively seek to displace reality through escapist activities have no idea how to express inner turmoil without feelings of anger and hostility that often lead to acts of aggression and violence. One research effort that supports this conclusion is from Unnever, Cullen, Mathers, McClure, and Allison (2009), who found that individuals faced with unattainable expectations most often blamed society for their failures and inadequacy. They assumed that such expectations tapped into what young adults thought of as realistically possible (Unnever et al., 2009). They created a model for an aspiration-expectation gap that would

demonstrate strain, the assumption being that those with larger gaps would be experiencing more strain (Unnever et al., 2009). The research also showed that not only were the respondents unrealistic in expectation, but when faced with social failure, they most often blamed differential opportunities for the expectations gap and saw little personal accountability with their failures.

Conversely, Hirschi in his research concluded that most young adults did not experience much strain (Hirschi, 1969). Hirschi believed that adolescents who had higher educational aspirations tended to have lower rates of juvenile delinquency, and he interpreted this finding to mean that such aspirations are an indicator of commitment to conventional behavior and acceptance of social norms (Hirschi, 1969). Thus, Hirschi's strain measure became, by default, a type of social bond. However, if young adults are experiencing higher than expected levels of strain, there must be a relative causality that might be linked to the rapid introduction of social media to the millennial generation. If Hirschi's claims are correct, then young adults are not under significant amounts of strain and are less likely to self-censor their digital and social media activities.

Aral and Sundararajan (2009) conducted a study of self-censorship in Facebook posts by young adults. Over 17 days, they tracked social media activity of 3.9 million young adult Facebook users in the United States, studying the actions, but not the keystrokes or content of the users' posts (Aral & Sundararajan, 2009). During the course of the study, 71 % of users typed out at least one status or comment and then decided not to submit it (Aral & Sundararajan, 2009). On average, they changed their mind repeatedly and changed or deleted 4.52 statuses and 3.2 comments per day (Aral & Sundararajan, 2009). They, and other researchers, including Brogatta (1964) and Conley

(1985), theorized that people are self-conscious when they are under higher level of strain (Brogatta, 1964; Conley, 1985). The Facebook data demonstrate that many users are more likely to self-censor when they feel they are being scrutinized and observed with a perceived bias by friends and colleagues (Aral & Sundararajan, 2009). The Facebook analysis demonstrated that young adults were highly conscious about the perceptions of their social circle and most likely self-censoring to avoid scrutiny. These data suggest that Hirschi's assumption about low levels of strain in young adults is not applicable to social media. Furthermore, high levels of strain could be a direct antecedent of the hypersensitivity of young adults concerning their attachment component within the digital world. One of the most basic concepts of Hirschi's social control theory is that people conform to society's norms in order to gain approval (and prevent disapproval) from family, friends, and romantic partners. Aral & Sundararajan's (2009) research strongly suggests that at least some elements of the social control theory are at work in social media.

However, what elements of the theory are at work? Inadvertently, Aral & Sundararajan may have answered this question. They reported that almost half of social media users felt a slightly uncomfortable feeling before publishing updates that were not fully factual or accurate (Aral & Sundararajan, 2009). The findings suggest that many social media users were conflicted by an internal battle between their idealized cyber-self-images and their inner voice of reason. Such a conflict supported the research findings of prior efforts by Ashton (1998), Barkley (1997), Beaty et al., (2001), that suggested that the social conflict perspective when internalized creates a manifestation of bitterness and resentment of authority and social norms. Taken in the context of

antisocial patterns of development, social media users may be demonstrating a resentment of social structures and social stratifications caused by the conflict between their cyber expectations and their real-world self-image (Berry, Ones, & Sackett, 2007). This would suggest that attachment and involvement are the preeminent components of the social control theory in most users.

However, the minimization of the commitment and belief components as observed may be driving less connected users to deviance instead of grounding them with positive social bonds. Bennett (2012) and Kramer et al., (2014) have been highly critical of the social media paradigm created and reinforced by the Facebook model of Happy, Shiny, People! The business model approached community from a socially unrealistic estimation of what made people attentive (Kramer, 2012). Facebook architects assumed that happy people were always engaged and positive, and it challenged the notion that people need a broad spectrum of emotions and inputs to remain balanced and emotionally healthy (Kramer, 2012). Instead, Facebook promoted an idealized image of life shared and re-shared between members of the social group in a self-reinforcing pattern that may inadvertently magnify resentment while increasing the aspiration/expectation gap among users who felt less successful in their everyday lives (Bennett, 2012). If such a paradigm exists, then social media may be creating problems for users related to social isolation and ineptitude that is causing internal conflicts. As Beaver and associates (1999) suggested, negative peer influences cause substantial internal conflicts, but just like a train wreck, peers cannot turn away from the social media carnage.

Ward and Ostrom (2006) coined a unique term to define the above observation: the Facebook Effect (Ward & Ostrom, 2006). Negative posts prompted about 1.29 more

negative posts from friends in their peer group. Facebook users reported in the study that 75% of all users felt a direct connection to the emotional status of their friends, and when one of the friends felt depressed or hurt, users reported a similar negative emotion after reading the friend's post or update. The Facebook effect suggested that emotions are often self-reinforcing in closed social groups (Endler & Magnusson, 1976). This observation is highly corrosive to social bonds in the real world.

Additionally, the research of Bennett (2012) suggested that social media trends are harmful in the real world to family and peer relationships. In his research on social media habits, Bennett concluded that almost 45% of social media users felt that when a peer or friend on social media was having a bad day, they too were having a bad day in their real-world lives (Bennett, 2012). This confluence of negative emotion between social media users has been confirmed by Vohs and Heatherton (2000) who noted in their research that users typically concede their individual feelings in order to support the feelings or emotions of their peer group especially if those emotions are outrage or negative in nature.

The aforementioned research suggests that one of the components of Hirschi's social control theory is most adversely affected by the growth of social media: belief (Kramer, 2012). In society, certain values such as freedom of expression and speech are espoused as norms; however, some previous research efforts have suggested that core values are often belittled in the social media spectrum (Kramera et. al, 2014). Therefore, Hirschi's assumption that people who strongly believe in these norms are less likely to deviate from them, may not be applicable in the social media environment. Bennett's (2012) research has found that those who question or challenge the norms of society are



most likely to be heavy users of social media (Bennett, 2012). According to Hirschi's logic, adherence to the belief and guidelines of society decreases the probability of deviance, however when socially diminished or developing young minds are introduced to antisocial concepts, the results may create more anti-social tendencies that are expressed in acts of deviance.

Ariel & Avidar (2014) have suggested that the social media platform is ideal for radicalization of individual views. Supporting this notion, Turkle (2011) explored similar issues when she discusses how people confuse social media usage with authentic communication and social bonds. Social media creates an environment in which false ideas and information can be distributed easily outside of a person's normal social circle (Turkle, 2011). In such an environment, the introduction of radical ideas and dissimilar social goals can be supported by the shared belief of a core group who empowers each member (Turkle, 2011). As the group grows, the ideas and conversations can be controlled and directed as a social re-education lab that could possibly radicalize participants (Ariel & Avidar, 2014).

More troubling, Bond et al. (2012) revealed that almost 80% of all respondent social media users tend to gravitate toward racial, ethnic and culturally homogenous networks and groups of friends. Previous research has suggested that those networks and groups most often influenced individual behavior and beliefs especially individuals who were loosely attached to real world peers (Bauer & Curran, 2003). If such a trend toward exclusion in social media circles exists, then the concept of multiculturalism and acceptance expressed in the values and norms of our society are undermined.

If the above noted phenomenon does exist, then there must be some form of confirmation of its existence. Robert MacCoun (1998) rationalized that not only do people form opinions in an uninformed manner, their ability to form logical conclusions was limited by the fact that most individuals think in single dimension/one thought at a time processes. MacCoun suggested that most people find it difficult to evaluate parallel ideas on their individual merits. His research relates to the social media concept presented by Turkle (2011), who suggested that individuals place an overtly high regard on the opinions of members of their social circle, to the point of “having blinders” to the fallacy of those opinions and beliefs (Turkle, 2011). The confirmation of an exclusionary trend supported by social media may have been partially confirmed by Dardenne and Leyens (1995) who studied how college students interacted in first encounter social environments. They suggested that when students were placed in a formal environment with a faculty member the students responded by self-monitoring their questions and responses (almost 80% of the time). However, when the participants were introduced to less formal social situations, especially if those encounters were indirect (possibly social media), the students self-monitored more and reflected on perceived shared likes and dislikes without regard to personal viewpoints or perspectives. Dardenne and Leyens (1995) postulated that part of the student social bonds was a type of confirmatory thought that was reinforced through social processes that could be highly susceptible to direct peer influences.

Also of note, Bessini, Caldarelli, Del Vicario, Scala, and Quattrociocchi (2013) attempted to determine how false information and opinions could spread rapidly through social media, without being debunked. They found that almost 88% of Facebook users

tend to seek out information that confirms their beliefs, and ignore contradictory information (Bessini et al., 2013). Furthermore, they also suggest social circles within the Facebook community are primarily made up of likeminded people who share similar ideas. The study suggested that social media creates an online-echo chamber that can support easily debunked falsehoods or conspiracy theories (Bessini et al., 2013). The focus of this study was how Facebook users spread conspiracy theories using 32 public news web pages, 35 science news web-pages and “troll” web pages where false information on conspiracy theories with bogus links, false quotes or graphics were posted (Bessini et al., 2013). They observed how the users in the individual social circles reacted to and followed links to one or more of the 69 web pages that were part of the study, and whether they learned about those links from their Facebook friends. They suggested that social media users focused on highly negative or highly positive emotions most of the time and were most likely to follow bogus links that were the most outrageous.

Expanding on this observation, Pang and Lee (2005) found that people ignored the neutral segment of messages under the assumption that neutral reviews did not serve the purpose of the process. The researchers reported that 64% of the respondents provided only highly positive, or highly negative feedback through the social media outlets. The empirical data suggested that neutral emotional feedback via social media could be ignored in the statistical analysis under the assumption that neutral reviews/ratings lie near the boundary of the binary classifier and are not accurate predictors of the user’s true sentiment.

One of the first and largest net evaluations of the social sentiment and its effect on individual beliefs involved the Cyber Emotions initiative. This initiative focused on understanding the relationship between emotions of individuals as revealed by subjective experience, behavior, physiological responses, and expressions from online activities and how those experiences affected the personal beliefs of the user. The Cyber Emotions study strongly suggested that social media metrics can identify serious psychological and behavioral issues in its users as a reflection of the user's attachments or beliefs. This study suggested that certain elements of social control theory could potentially serve as identifiers for personal maladies including mental depression, psychosis, bi-polar disorders, anorexia, anti-social disorders, insomnia and anger management detected by the online searches and activities of social media users. The Cyber Emotions data revealed that emotional diffusion gradients across social media sites averaged over 65%, which indicates that when negative emotion reaches a tipping point in social media, acts of anger, hostility and deviance may spike among users in the real world (Micalizzi, 2014).

The Cyber Emotions study has been corroborated in a limited fashion by Tumasjan, Sprenger, Sandner, and Welp, (2010) who studied the social sentiment of Twitter users during an election cycle in Germany. They found that 61.7% of the time people who were angered by a political message also reported being angry on the job or in their homes (Tumasjan, et al., 2010). Conceptually, the authors strengthen the argument that offline landscapes are indeed being shaped by social sentiment generated online (Tumasjan, et al., 2010).

While the aforementioned research has offered strong suggestions that social media are undermining social bonds and social control in the real world, very few efforts have directly explored the phenomena. One of the notable exceptions is an investigative study conducted by the United States Air Force Research Laboratory (Jeyaraj and Malone, 2011). They found that a social desirability bias affected over 94% of their subjects and they suggested that social theories tested in digital media were dependent on the level of attachment and involvement of the participant in the social media experience. For the majority of participants, social desirability to be accepted and appreciated by their peers increased their attachment and involvement in both social media in the digital spectrum and in the real world. However, the study found that in 5-6% of the survey participants that were frequent social media users, social media had the opposite effect. Instead of promoting social bonds and increasing involvement, these participants started developing anti-social ideas and opinions that were manifesting in their personal and professional lives. Jeyaraj and Malone (2011) also reported that these outlier participants migrated from social media sharing toward content technologies that reinforced their individual opinions and allowed them to develop a cyber-peer group with similar beliefs. This study suggested that for the majority of social media users (94%) social desirability bias drives them towards positive bonding experiences. However, the outlier participants (5-6%) reject positive bonding experiences and are driven toward negative anti-social experiences that diminish their social bonds and dramatically alter their social beliefs.

Another specific exploration with similar findings is the Social Web Mining and Sentiment Analysis for Mental Illness Detection project, that aims to integrate applied social metrics and analytics from up to four separate psychological variables into an

accurate algorithm for the detection of possible mental illness signs and symptoms from the social media posts of users (Ghazi, Inkpen, and Szpakowicz, 2014). The researchers developed a working hypothesis and algorithm from prior research efforts (similar results to Jeyaraj & Malone) that evaluated the contextual dimensions of social media posts for signs of anti-social disorders (Ghazi, Inkpen, & Szpakowicz, 2010). Most relevant to the study's hypothesis, the researcher has suggested that multi-variable algorithms could accurately predict other human conditions including anti-social behavior, criminality, and even detect individuals who might consider mass shootings or terrorist acts (Ghazi et al., 2014).

### **Summary**

Researchers have argued that many social media users are addicted to social media and display some of the same tendencies as drug addiction especially as related to Hirschi's components of belief, attachment, and commitment. In such a comparison, social media users, much like drug addicts withdraw from social groups, reject the help of friends and family, and seek solace in their addictions. As a drug addict withdraws from their peer group, the tendency to become involved in deviant and criminal activity increases exponentially (Kramer, 2012). As Arnklev et al. (1993) theorized, drug addicts fall into imprudent behaviors and often criminal conduct because their social bonds are weakened from their self-imposed isolation in the drug culture. If a drug addict displays a willingness to compromise their personal beliefs, their family commitments, and their attachment to society in the pursuit of their next high, it could be argued that social media users might demonstrate similarly diminished social bonds as related to Hirschi's theory (Bennet, 2012).

While the research does not suggest that social media are as detrimental as drug addiction is to its users, social media might provide an underlying explanation for heightened interpersonal deviant tendencies among heavy users (Berry, Ones, & Sackett, 2007). Research has demonstrated that excessive use of social media may lead to depression, isolation, and anger control issues that may be precursors to antisocial disorders (Ariel & Avidar, 2014, Dhimi, 2012 and Junco, Heilberger, & Loken, 2011).

The operationalization of this research seeks to evaluate three components of Hirschi's theory: attachment, involvement, and commitment. Because social control theory relies on the positive aspect of human nature (i.e., why we follow rules), any platform or forum that undermines the acceptance of social norms (the rules) most likely highly challenges the premises of Hirschi's theory. Beaver, Wright, & DeLisi, (2007), and Tittle, Ward, & Grasmick, (2004) have suggested that Hirschi's theory has been eroded and this erosion is due to a significant shift in our social bonds and ability to communicate with our peer groups. If a negative or counter framework (such as social media) exists, then it may be undermining its users' levels of attachment and commitment to their communities and society as whole.

While theoretical, this is an area of interest that deserves further investigation. As noted by Ward & Ostrom (2006), and Bennet (2012), if there is a fundamental shift in how individuals interact, from a positive context to a negative one, Hirschi's theory could be evaluated by measuring how the general opinions vary in other areas including attitudes about smoking, underage drinking, and marijuana use. Much in the same way that Arnklev et al. (1993) suggested that there were gateways in personal beliefs that could trigger imprudent behavior and deviance, this researcher would suggest that there

are gateway attitudes that are shared among social media users that could measure if their levels of attachment and commitment have been diminished.

### **Hypotheses**

Elements of Social Control Theory may be eroded by excessive social media use. The following hypotheses are developed that examine three of the bonds of Hirschi's theory and three forms of underage deviance: smoking cigarettes, drinking alcohol, and marijuana use.

**H1-** Excessive social media users are more prone to smoke cigarettes because of diminished attachment, involvement, and commitment.

**H2-** Excessive social media users are more prone to drink alcohol because of diminished attachment, involvement, and commitment.

**H3-** Excessive social media users are more prone to use marijuana because of diminished attachment, involvement, and commitment.



## CHAPTER III

### Methodology

#### Data source

This study utilizes Monitoring the Future study data from the 2014 national survey. Monitoring the Future surveys of high school seniors and young adults, conducted by the Institute for Social Research at the University of Michigan, and sponsored through a series of grants from the National Institute on Drug Abuse, have been described in extensive detail previously (Bachman, Johnston, & O'Malley, 1996). However, regarding Social Media research, the Monitoring the Future (MTF) project data have been underutilized. The potential strength of the data set for social media research is both its target demographic and the depth of its survey instrument.

The Monitoring the Future project employs a cohort-sequential research design that involves annual self-reported surveys of nationally-representative samples of high school students (8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> graders). The data as a cross-sectional study provide point estimates of various behaviors and conditions of the target demographic especially areas of attitudes towards various delinquent acts such as drug use and underage drinking. The value of the data in terms of Social Media research rests in its macro sampling techniques. The data collection takes place in approximately 120 to 146 public and private high schools selected randomly each year to provide an accurate representative cross section of the coterminous United States. While self-reported studies such as MTF can reveal delinquency and attitudes about behaviors of the study group, the general weakness in this model is the potential of exaggeration of stated delinquency such as marijuana use because of peer induced perceptions.

The primary researchers selected students for study from the 72 primary sampling units. The researchers selected eight of the PSU's with certainty, ten were selected with a probability of .50 or greater, and the remainder were selected with probability proportionate to the size of the senior class. For example, in large schools with more than 350 seniors, a random sample of seniors or classes was drawn to represent the cohort. In smaller schools with class sizes less than 350, the researchers asked all eighth, 10<sup>th</sup> and 12<sup>th</sup> grade students to participate.

### **Sample**

The 2014 data included surveys from 15,195 eighth graders, and 13,341 tenth graders. The sample size for this study includes 28,536 respondents. Previous evaluations of MTF have demonstrated confidence intervals of (95%). Consequently, if many samples of this size were taken from all schools containing 8<sup>th</sup> and 10<sup>th</sup> graders in the coterminous United States, 95 times out of 100, the sample would yield a result that would be less than 1.5 percentage points divergent from the statistical mean. The research design that produced the samples used in this study incorporates stratification, clustering, and differential weighting of sampling error and design effect as noted to be  $1.3 + .00075 * N$ , where N represents the numbers of weighted cases. This formula was developed using methods suggested by Kish (1965), and applied in a test sample to the annual reporting of Monitoring the Future results (Johnston, Bachman, & O'Malley, 1997, Appendix B).

### **Dependent Variables**

In this study, the dependent variable of substance use/abuse was selected for evaluation from the data which included specific questions from the 2014 data that

evaluate the following components; have you smoked cigarettes in the past 30 days, have you drunk alcohol in the past 30 days, and have you used marijuana in the past 30 days.

The internal consistency coefficients for these questions were found to be within an acceptable range and was used as the qualifying threshold for their inclusion as dependent variables. Several other questions were considered from the data, but these questions were ruled out as dependent variables because their internal consistency coefficients were too high ( $< .0033$ ). For purposes of data calculation and descriptive valuation, the questions were tabulated in both the dichotomized and un-dichotomized forms to ascertain the possible effect of frequency on the attitudes of the study group.

The dependent variables in this study were evaluated to test for the prevalence of deviance, in such a manner as to record a categorical variable based on the involvement of the participants in activities that are typically considered deviant behaviors. This study did not use random selection of deviant variables to determine what is and what is not a deviant act or attitude. Instead, the researcher relied on the guidance offered by the primary Monitoring the Future researchers to categorize the perspective activities or attitudes. While the dependent variable selection is not tested in terms of relevance, its validity is consistent with previous studies that have utilized the Monitoring the Future Data set.

### **Independent Variables**

The independent variables were inclusive of social media and internet use by the participants and also the attitudes related to elements of Social Control theory. The independent variables were divided into two categories that involved questions that measure both exposure to social media sites such as Facebook and YouTube, exposure to

internet activities other than social media including Snap Chat, Twitter, and texting as forms of interactive social activities. The second category involves questions that test the attitudes of social media users related to elements of the Social Control theory such as attachment, commitment, and involvement. The independent variables chosen for evaluation are drawn from questions such as hours of internet use per week, hours on social media per week for the internet/social media variables, and questions such as will you go to vocational or technical school, will you go to college, will you serve in the armed forces, will you graduate from a four-year college, do you participate in the school newspaper or yearbook, do you participate in music or other performing arts, do you participate on athletic teams, do you participate in other school clubs or activities, average hours you spend on homework per week, how often parents check your homework, how often parents help with homework, how often parents make you do chores, and how often parents limit the amount of TV you watch to for the social control variables.

### **Operationalization of the Independent Variables**

In the first category of the independent variables, respondents were asked to provide an average number of hours (weekly) they participated in digital or social media. Unfortunately, this does create a limitation in that the survey responses are generalized and may be either over estimated or under estimated. For instance, while some participants could respond to specific questions as more or less, the segments provided by the survey were not very specific and could be interpreted as too broad. For instance, more than 1-hour, less than 4-hours. Therefore, this study relies on questions with more limited parameter that was more attuned to addictive or habitual social media

participation (more than 4-hours). Based on this assumption, questions were excluded and included for testing based on high frequency use as it was reported in the 2014 survey.

In the second category of independent variables, the study seeks to test the elements of Social Control theory such as attachment, commitment, and involvement. In order to evaluate the element of commitment from the Social control theory we included answers to the following questions: will you go to vocational or technical school, will you go to college, will you serve in the armed forces, will you graduate from a four-year college and recoded the variable as Plan.

In order to evaluate the element of attachment from the Social Control theory we included answers to the following questions: how often parents check your homework, how often parents help with homework, how often parents make you do chores, and how often parents limit the amount of TV you watch and recoded the variable as Attachment.

In order to evaluate element of involvement from the Social Control theory we included answers to the following questions: do you participate in the school newspaper or yearbook, do you participate in music or other performing arts, do you participate on athletic teams, do you participate in other school clubs or activities. We also examined answers to the following questions: average hours you spend on homework per week in the involvement.

### **Control Variables**

Three control variables were included in this study: the participants' gender, age, and race. The first control variable, the participant's gender was coded as female = 0 and male = 1. Previous studies (Wagner et al., 2009) have suggested that young males are

more active with digital technology (such as Twitter, and Snap Chat), while young females are more active with social media (Facebook). As mentioned in the literature review, some studies have found a difference in how young women and young men react and interact with social media resulting in a causality that affects delinquency and deviance that could be attributable to gender.

The second control variable, age of the participant was included because of variation in ages in grades. For example, while 12<sup>th</sup> grade students are in their final year of high school, they are not necessarily the same age because some students may have been held back one or more years during their primary education, in addition some students may have received early merit promotions and by-passed one or more early grades.

Finally, the third control variable is participant race. The assumption in this study suggest that race much as gender, has an effect on how social media are used. Wagner et al., (2009) have suggested that differences in gender cause differences in social media use, it is hypothesized that participant race affects not only what social media they use (Facebook or Yik-Yak) but how that media affects their social controls, particularly their attachment.

In summary, the analytical strategy of this study seeks to examine the distinctive patterns of social media use in regard to deviance and attitudes of the surveyed cohort. Multivariate analysis will allow the dependent variable to be compared in more than two categories or questionnaire responses. Whereas most logistic regression techniques require that at least one level of the independent variables to be used as a comparison variable, multinomial techniques using a larger number of multiple dependent variables

should allow for relatively easy interpretation of any significance in the findings. For example, the individual characteristic of participant age as the control variable might demonstrate a correlation between high intensity social media use and frequent drug use; it may not however, reflect a similar significance when the dependent variable of underage drinking is measured. This finding might not be detected with some logistic regression techniques; however, it is relevant in determining if social media is merely introducing more liberal views on drug use or if it is truly undermining social bonds.

Prior to conducting the data analysis for this study, the researcher examined the data quality to detect outliers and missing or partial data that required transformations (inclusion or exclusion) prior to analysis. Inclusion and exclusion was governed by using list-wise transformation of missing data to exclude all possible outliers in the final sample. There were several questions from the survey that were not asked in all schools which resulted in a considerably smaller sample size as compared to the original sample. The researcher also conducted a multicollinearity test of the independent variables to measure for any possible variance inflationary factors that could be attributed to the control variables (age, gender or race). No serious threats or randomized data currently exists with the Monitoring the Future sample that might influence this studies predictor variables or produce invalid resultants.

While the process of testing and validation must include a bi-variate analysis of the individual independent variables, control variables should be included to moderate for variances in the individual participant and how those variances may be inflationary to the statistical results. While this analysis may be somewhat subjective and limited in the number of independent variables tested, its results should be most relevant to the social

control components of attachment and commitment that the researcher believes are most permeable to erosion by social media.

The variables in this study are presented below in Table 1.



Table 1

*Descriptive Table*

Variable	N	Minimum	Maximum	Mean	S. D.	Coding	Frequency
<b>Dependent</b>							
Cigs 30 days	7968	0	1	.06	.231		
Drnk 30 days	7683	0	1	.16	.370		
MJ 30 days	7979	0	1	.11	.316		
<b>Int/Soc Med</b>							
Internet Use	8168	1	9	4.66	2.296		
Soc Med Use	8081	1	9	4.38	2.538		
<b>Soc Control</b>							
Attachment	6202	.00	12.00	6.87	2.90		
SchoolAct	8066	1	7	2.75	1.37		
Hrs on HW	7908	.00	16.00	4.96	3.67		
Plan	7628	.00	12.00	7.16	1.85		

(continued)

Variable	N	Minimum	Maximum	Mean	S. D.	Coding	Frequency
<b>Control</b>							
Age	4003	.00	1.00	.578	.494	.00 =<16 yrs	1691
						1.00= 16+yrs	2312
Gender	7966	.00	1.00	.479	.499	.00=female	4148
						1.00=male	3818
Black	6507	.00	1.00	.155	.3623	.00=other	5496
						1.00=Black	1011
Hispanic	6507	.00	1.00	.201	.403	.00=other	5179
						1.00=Hispsc	1328

## CHAPTER IV

### Results

The three hypothesis H1, H2, and H3 are tested in separate logistic regression models to examine the possible impact of social media use on the behaviors of young adult respondents regarding smoking cigarettes, drinking alcohol and marijuana use. The regression tests were conducted in order to assess the relationship between the three hypotheses and the components of Hirschi's Social Control Theory (Attachment, Involvement, and Commitment). The relevant approach of the testing model was based on recent statistical theory, particularly the work of Lipsitz, Parzen, Fitzmaurice, & Klar (2003) who postulated that the testing of theory in social science research is highly susceptible to random chance in observation of predictor variables. The researcher's argument is based on their study of a large longitudinal research effort the Connecticut Child Study (Zimmer, et al. 1992), Lipsitz's et al. suggest that if the prevalence of the dichotomous outcome varies among subgroups of the population, then covariates that identify the subgroups may appear to be predictive when in fact their correlation is erroneous and based solely on randomized chance.

In the Correlation Matrix, Table 2, we looked at the independent variables to evaluate the relationship between the Social Control elements (attachment, commitment, and involvement), the hours of internet use, and the hours of social media use to analyze what type of relationship they shared if any. It is hypothesized that excessive social media use is diminishing elements of the Social Control Theory, and as shown in table 2, we see that Social Media use has a significant negative correlation with attachment and plan and a positive significant correlation with schoolactive. This would indicate that for

every hour of social media use attachment and plan are diminished. As for the positive correlation between Social media use and schoolactive, this could indicate that respondents who are on the yearbook committee are communicating on social media about an upcoming meeting. Regarding internet use we also see that a significant negative correlation with attachment and plan and a positive significant correlation exists with hours on homework. This would indicate that for every hour of internet use attachment and plan are diminished as well. As for the positive correlation between internet and hours on homework, this could indicate that respondents are using the internet to complete their homework.

Table 2

*Correlation Matrix*

	1	2	3	4	5	6
1-Internet	1					
2-SocialMedia	.408**	1				
3-Attachment	-.138**	-.138**	1			
4-SchoolActive	.009	.058**	.177**	1		
5-Hrs Homework	.106**	.013	.104**	.159**	1	
6-Plan	-.040**	-.038**	.188**	.167**	.067**	1

*Note. \*\* Correlation is significant at the 0.01 level (2 tailed).*

## Models

Logistic regression was used to test each of the three hypotheses separately. Each logistic regression for the individual hypotheses relied on two separate models to evaluate the dependent variables (smoking, drinking alcohol, and marijuana use in the last 30 days). Model 1, considered the conventional model, contained the independent variables for Social Control elements related to attachment, commitment, and involvement and control variables. Model 2, included the conventional model plus we introduced internet use, and social media use variables.

### Smoked Cigarettes in the Past 30 days

**Model 1.** A logistic regression was performed to assess the impact of a number of factors in the likelihood that respondents would report that they had smoked cigarettes in the past 30 days. Model 1, contained four independent variables for social control elements (Attachment, Schoolactive, Hours on homework, and Plan,) and four control variables (Age, Black, Hispanic, and Gender). The model containing these variables was statistically significant,  $\chi^2(8, N= 2390) = 80.931, p < .001$ , indicating that the model was able to distinguish between respondents who reported and did not report smoking cigarettes in the past 30 days. The model explained between 3.3 % (Cox and Snell R square) and 7.8 % (Nagelkerke R squared) of the variance in cigarette smoking in the past 30 days, and correctly classified 92 % of cases. As shown in Model 1 of Table 3, four of the independent variables made a statistically significant contribution to the model (Attachment, Schoolactive, Black, and Age). Model 1 indicates that respondents who were 16 years of age or older were more likely to report that they had smoked cigarettes in the past 30 days. Additionally, Attachment, Schoolactive, and Black indicated a

negative effect on the probability of the respondents reporting that they had smoked cigarettes in the past 30 days. The Hosmer and Lemeshow “goodness of fit” Test indicated that the chi-square value is 11.540 with a significance level of .173. This value is larger than .05, therefore indicating support for this model.

**Model 2.** Logistic regression was also performed to assess the impact of several factors on the likelihood that respondents would report that they had smoked cigarettes in the past 30 days. Model 2 contained four independent variables for social control elements (Attachment, Schoolactive, Hours on homework, and Plan,) and four control variables (Age, Black, Hispanic, and Gender) and we introduced the internet and social media variables (hours per week internet use, and hours per week social media use) in this model. The model containing these variables was statistically significant,  $\chi^2(10, N = 2378) = 101.621, p < .001$ , indicating that the model was able to distinguish between respondents who reported and did not report smoking cigarettes in the past 30 days. The model explained between 4.2 % (Cox and Snell R square) and 9.8 % (Nagelkerke R squared) of the variance in smoking cigarettes in the past 30 days, and correctly classified 92 % of cases. As shown in Model 2 of Table 3, six of the independent variables made a unique statistically significant contribution to the model (Attachment, SchoolActive, Black, Hispanic, Gender, and Hours on Social Media). In model 2, the most significant predictor of reporting smoking cigarettes in the past 30 days was social media use, indicating that the more hours of social media use the more likely the respondent was to report that they had smoked cigarettes in the past 30 days. In addition, sex also made a statistically significant contribution to the model, indicating that male respondents were more likely to report smoking cigarettes in the past 30 days than their female counterparts

were. Attachment, Schoolactive, Black and Hispanic indicated a negative effect on the probability of the respondents reporting that they had smoked cigarettes in the past 30 days. The Hosmer and Lemeshow “goodness of fit” Test indicated that the chi-square value is 13.583 with a significance level of .093. This value is larger than .05, therefore indicating support for this model. The results from the full model containing all of the predictors supported Hypothesis 1, that excessive social media users are more prone to smoke cigarettes because of diminished attachment, involvement, and commitment.

Table 3

*Logistic Regression Model 1 & Model 2 Smoking Cigarette 30 Days*

Variables	Coefficient	Model 1 S.E.	Exp (B)	Coefficient	Model 2 S.E.	Exp (B)
Constant	-1.126**	.353	.324	-1.808**	.422	.164
Social Control						
Attachment	-.139**	.028	.870	-.129**	.028	.879
School Active	-.100**	.026	.905	-.107**	.026	.899
Hrs Homewrk	-.063	.060	.939	-.053	.062	.948
Plan	-.015	.041	.985	-.014	.041	.986
Controls						
Age	.349	.166	1.417	.325	.167	1.384
Black	-.975**	.299	.377	-1.120**	.304	.326
Hispanic	-.460	.262	.632	-.565*	.265	.568
Gender	.241	.158	1.273	.431*	.165	1.539
Inter/SocMed						
Internet				-.042	.036	.959
Social Media				.156**	.034	1.168

*Note.**N=2390; p<.001\*\*; p<.05\***N=2378; p<.001\*\*; p<.05\**

### **Drank Alcohol in The Past 30 days**

**Model 1.** A logistic regression was performed to assess the impact of a number of factors in the likelihood that respondents would report that they had drunk alcohol in the past 30 days. Model 1 contained four independent variables for social control elements (Attachment, Schoolactive, Hours on homework, and Plan,) and four control variables (Age, Black, Hispanic, and Gender). The model containing these variables was statistically significant,  $\chi^2(8, N= 2301) = 81.570, p < .001$ , indicating that the model was able to distinguish between respondents who reported and did not report drinking alcohol in the past 30 days. The model as a whole explained between 3.5 % (Cox and Snell R square) and 5.2 % (Nagelkerke R squared) of the variance in drinking alcohol in the past 30 days, and correctly classified 75.7 % of cases. As shown in Model 1 of Table 4, four of the independent variables made a statistically significant contribution to the model (Attachment, Schoolactive, Black, and Age). Model 1 indicates that respondents who were older than 16 years of age were more likely to report that they had drunk alcohol in the past 30 days. In addition, Attachment, Schoolactive, and Black indicated a negative effect on the probability of the respondents reporting that they had drunk alcohol in the past 30 days. The Hosmer and Lemeshow “goodness of fit” Test indicated that the chi-square value is 4.495 with a significance level of .810. This value is larger than .05, therefore indicating support for this model.

**Model 2.** In model 2, logistic regression was also performed to assess the impact of several factors on the likelihood that respondents would report that they had drunk alcohol in the past 30 days. Model 2 contained four independent variables for social control elements (Attachment, Schoolactive, Hours on homework, and Plan) and four



control variables (Age, Black, Hispanic, and Gender) and we introduced the internet and social media variables (hours per week internet use, and hours per week social media use) in this model. The model containing these variables was statistically significant,  $\chi^2$  (10,  $N = 2289$ ) = 155.198,  $p < .001$ , indicating that the model was able to distinguish between respondents who reported and did not report drinking alcohol in the past 30 days. The model as a whole explained between 6.6 % (Cox and Snell R square) and 9.8 % (Nagelkerke R squared) of the variance in drinking alcohol in the past 30 days, and correctly classified 83.5% of cases. As shown in Model 2 of Table 4, six of the independent variables made a unique statistically significant contribution to the model (Attachment, SchoolActive, Age, Black, Gender, and Hours on Social Media). In model 2, the most significant predictor of reporting drinking alcohol in the past 30 days was social media use, indicating that the more hours of social media use the more likely the respondent was to report that they had drunk alcohol in the past 30 days. In addition, sex and age also made a statistically significant contribution to the model, indicating that older than 16 years of age male respondents were more likely to report drinking alcohol in the past 30 days. Attachment, Schoolactive, and Black indicated a negative effect on the probability of the respondents reporting that they had drunk alcohol in the past 30 days. The Hosmer and Lemeshow “goodness of fit” Test indicated that the chi-square value is 5.842 with a significance level of .665. This value is larger than .05, therefore indicating support for this model. The results from the full model containing all of the predictors supported Hypothesis 2, that excessive social media users are more prone to drink alcohol because of diminished attachment, involvement, and commitment.

Table 4

*Logistic Regression Model 1 & Model 2 Drank Alcohol Past 30 Days*

Variables	Coefficient	Model 1 S. E.	Exp (B)	Coefficient	Model 2 S. E.	Exp (B)
Constant	-.349	.241	.705	-1.249**	.290	.287
Social Control						
Attachment	-.101**	.018	.904	-.088**	.019	.915
School Active	-.031**	.016	.969	-.038**	.016	.962
Hrs Homewrk	-.036	.036	.965	-.027	.038	.974
Plan	-.001	.028	1.001	-.005	.029	1.005
Controls						
Age	.262*	.104	1.300	.240	.106	1.272
Black	-.869**	.177	.419	-1.069**	.183	.343
Hispanic	-.104	.155	.902	-.220	.159	.802
Gender	.068	.101	1.070	.283*	.106	1.326
Inter/SocMed						
Internet				-.039	.024	.961
Social Media				.192**	.023	1.212

*Note.**N=2301; p<.001\*\*; p<.05\***N=2289; p<.001\*\*; p<.05\**

### Used Marijuana in the Past 30 days

**Model 1.** A direct logistic regression was performed to assess the impact of a number of factors in the likelihood that respondents would report that they had used marijuana in the past 30 days. Model 1 contained four independent variables for social control elements (Attachment, Schoolactive, Hours on homework, and Plan,) and four control variables (Age, Black, Hispanic, and Gender). The model containing these variables was statistically significant,  $\chi^2(8, N=2373) = 169.199, p < .001$ , indicating that the model was able to distinguish between respondents who reported and did not report using marijuana in the past 30 days. The model as a whole explained between 6.9 % (Cox and Snell R square) and 11.7 % (Nagelkerke R squared) of the variance in using marijuana in the past 30 days, and correctly classified 83.9 % of cases. As shown in Model 1 of Table 5, four of the independent variables made a statistically significant contribution to the model (Attachment, Schoolactive, Hours on homework, and Gender). Model 1 indicates that respondents who were male and also those who spent more time on homework were more likely to report that they had used marijuana in the past 30 days. In addition, Attachment, and Schoolactive indicated a negative effect on the probability of the respondents reporting that they had used marijuana in the past 30 days. The Hosmer and Lemeshow “goodness of fit” test indicated that the chi-square value is 8.990 with a significance level of .343. This value is larger than .05, therefore indicating support for this model.

**Model 2.** In model 2, logistic regression was also performed to assess the impact of several factors on the likelihood that respondents would report that they had used marijuana in the past 30 days. Model 2 contained four independent variables for social

control elements (Attachment, Schoolactive, Hours on homework, Plan,) and four control variables (Age, Black, Hispanic, and Gender) and we introduced the internet and social media variables (hours per week internet use, and hours per week social media use) in this model. The model containing these variables was statistically significant,  $\chi^2(10, N = 2366) = 169.028, p < .001$ , indicating that the model was able to distinguish between respondents who reported and did not report using marijuana in the past 30 days. The model as a whole explained between 6.9 % (Cox and Snell R square) and 11.8 % (Nagelkerke R squared) of the variance in using marijuana in the past 30 days, and correctly classified 84 % of cases. As shown in Model 2 of Table 5, four of the independent variables made a unique statistically significant contribution to the model (Attachment, SchoolActive, Gender, and Hours on Social Media). In model 2, the most significant predictor of reporting using Marijuana in the past 30 days was social media use, indicating that the more hours of social media use the more likely the respondent was to report that they had used Marijuana in the past 30 days. In addition, sex also made a statistically significant contribution to the model, indicating that male respondents were more likely to report using Marijuana in the past 30 days than their female counterparts. Attachment, and Schoolactive indicated a negative effect on the probability of the respondents reporting that they had used Marijuana in the past 30 days. The Hosmer and Lemeshow “goodness of fit” test indicated that the chi-square value is 6.078 with a significance level of .638. This value is larger than .05, therefore indicating support for this model. The results from the full model containing all of the predictors supported Hypothesis 3, that excessive social media users are more prone to use marijuana because of diminished attachment, involvement, and commitment.

Table 5

*Logistic Regression Model 1 & Model 2 Using Marijuana 30 Days*

Variable	Coefficient	Model 1 S. E.	Exp (B)	Coefficient	Model 2 S. E.	Exp (B)
Constant	-1.520**	.289	.219	-1.456**	.320	.233
Social Control						
Attachment	-.126**	.021	.882	-.123**	.021	.884
School Active	-.094**	.019	.911	-.092**	.019	.912
Hrs Homewrk	.194**	.024	1.214	-.020	.045	.981
Plan	-.035	.031	.965	-.039	.032	.962
Controls						
Age	.224	.122	1.251	.232	.123	1.261
Black	-.167	.173	.847	-.201	.176	.818
Hispanic	.184	.172	1.202	.155	.173	1.168
Gender	.337*	.122	1.401	.336*	.123	1.400
Inter/SocMed						
Internet				-.006	.027	.994
Social Media				.197**	.026	1.218

*Note.*  $N=2373$ ;  $p<.001$ \*\*;  $p<.05$ \*

$N=2366$ ;  $p<.001$ \*\*;  $p<.05$ \*

## CHAPTER V

### Discussion and Conclusion

The purpose of this study was to examine the potential of social media to undermine Hirschi's Social Control Theory: Can excessive Social Media activities expose young people to ideas and views that threaten their normal social controls to the point that they become more likely to embrace deviance? Three hypotheses were developed to analytically test respondent involvement with forms of delinquency including smoking cigarettes, drinking alcohol and Marijuana use. The purpose of the three hypotheses was to find a statistical method to sequentially evaluate social media variables alongside social control variables in a measurable comparison.

#### Limitations of the Study

The research design chosen created a series of unique limitations. These limitations included specificity and the general limitations of self-reported studies. In the case of specificity, the data instrument used, Monitoring the Future (2014) had a limited number of questions directly seeking information from the respondents about their social media habits. The data did not offer subcategorized questions about specific social media sites like Facebook or Instagram; instead the constraints of the Monitoring the Future model evaluated social media that included only hours per week of use. Additionally, the model did not offer any questions that would shed light on how important the social media bonds and associations were to the respondents or if the respondent's attitudes towards social media were a constant fixation or merely a fad type of pastime.

The second limitation of this studies model involves the aspect of self-reporting surveys. While the Monitoring the Future data set is extensive, like so many other

longitudinal studies, the validity of the responses provided is potentially understated in this model. The dependent variables researched involve activities that are either illegal or restricted from use by young people. Even though the survey was offered as anonymous to the respondents, some survey data may have been underreported because the respondents did not wish to self-incriminate. This limitation may also affect the underreporting of the social media independent variables.

A third limitation of this studies model is that not all of the aspects of the Social Control Theory were adequately represented in that the researcher was unable to ascertain a group of variables that could properly measure attitudes of belief.

### **Policy and Practice Implications**

Systemically, the size and reach of social media in modern societies may make the act of vigorous policing an act of futility. However, scholars have an opportunity to commence a thorough and comprehensive evaluation of how social media are affecting the young. The results of this study call for further research and larger scale longitudinal efforts. Specific information collated for cohort comparisons may further support or refute some of the generalizability of this study's findings.

Regarding policy, criminal justice professionals are already somewhat aware of the potential of social media for inciting violence and other forms of deviance and delinquency. Beyond the direct threat of self-radicalized terrorists, social media may also be a source or at the very least a communication hub for illegal narcotics or human trafficking. For policy makers, the question cannot be subjectively answered until much more research is available to validate a more stringent policy on young adult social media use and compulsions. While two other post-modern western societies (the United

Kingdom and Canada) are considering a guidance and age restrictions similar to movie rating systems, the effectiveness of these measures is debatable.

## **Discussion**

In spite of the above-noted limitations, the study revealed several interesting statistical narratives with the analysis. In Hypotheses 1 (Model 2), the analysis indicates that cigarette smoking among Social Media users is most prevalent with male respondents. Black and Hispanic respondents were less likely to report smoking cigarettes in the past 30 days compared to White respondents. Regarding social control elements, attachment and schoolactive acted as protective mechanisms against smoking cigarettes in the past 30 days. This would tend to support the hypotheses.

Hypotheses 2 also indicates that excessive social media use is correlated with underage drinking. Social media use is most prevalent with male respondents that are 16 years or older. Black respondents were less likely to report drinking alcohol in the past 30 days than their White counterparts were. Regarding social control elements, attachment and schoolactive acted as protective mechanisms against drinking alcohol in the past 30 days. This would also tend to support the hypotheses.

Hypotheses 3 further affirms the analysis indicating that using marijuana among Social Media users is most prevalent with male respondents. Regarding social control elements, attachment and schoolactive acted as protective mechanisms against using marijuana in the past 30 days. This further supports the hypotheses.

As previously stated, there has been limited research conducted regarding the impact of Social Media use on attachment, involvement and commitment of its users and the impact on levels of deviance and delinquency. Previous research has found that



Social Media use can lead to activities such as cyber aggression, sleep deprivation, negative feelings, depression, addictive behaviors, and antisocial behaviors. These findings suggested that Social Media use affects the user's life in untoward, and in several incidents a negative fashion. In the current study we also found that Social Media use can lead to substance use and abuse regarding smoking cigarettes, underage drinking and marijuana use. Overall, our research shows that Social Media use is a significant predictor variable of some forms of deviance and delinquency and should be a focus for future criminological research moving forward to assess other areas it may impact.

It is the researcher's assertion that in the field of Criminology and Criminal Justice we have barely scratched the surface of the impact that Social Media use has on our society regarding deviancy, delinquency, and even crime.

### **Future Research**

The results would appear to demand further research to support these findings. It would be highly beneficial to continue using the Monitoring the Future datasets if the researchers would consider adding additional questions about social media and attitudes towards it and how its users are integrated into both their family and peer groups. Also, if the Monitoring the Future researchers would include social media questions across all the survey instruments, this would diminish missing data and promote a more effective national sample that would be highly representative and possibly predictive. Future research could look in to the differences in substance use between males and females and among the races.

**Conclusion**

While it must be acknowledged that the social control variables used in this study were spartan, they do represent a candid impression of what makes young adults fall into or participate in deviance. This observation is directly related to the power of Social Media as an unfiltered social dynamic that is changing who and what young adults support, believe in, or aspire to be.

## REFERENCES

- Akers, R. L. (1991). Self-Control as a General Theory of Crime. *Journal of Quantitative Criminology*, 7(2), 201–11.
- Anderson, B. J., Holmes, M. D., & Ostresh, E. (1999). Male and female delinquents' Attachments and effects of attachments on severity of self-reported delinquency. *Criminal Justice and Behavior*, 26(4), 435-452.
- Aral S.L. & Sundararajan A. (2009). Distinguishing influence-based contagion from homophily-driven diffusion in dynamic networks. *Proceedings of the National Academy of Science*, 106(51), 21544–21549.
- Ariel, Y.; & Avidar, R. B. (2014). Information, Interactivity, and Social Media. *Atlantic Journal of Communication*, 23(1), 19–30.
- Arneklev, B. J., Harold, G., Tittle C. & Bursik, R. J. (1993). Low Self-Control and Imprudent Behavior, *Journal of Quantitative Criminology*, 9(3), 225–47.
- Ashton, M. C. (1998). Personality and job performance. The importance of narrow traits. *Journal of Organizational Behavior*, 19(4), 289-303.
- Barkley, R.A. (1997). Behavioral inhibition, sustained attention, and executive functions: constructing a unifying theory of ADHD. *Psychology*, 121(9), 65–94.
- Barlow, H. D. (1991). Explaining crime and analogous acts, or the unrestrained will grab at pleasure whenever they can. *Journal of Criminal Law & Criminology*, 82(9), 229–242.
- Bauer, D. J., & Curran, P. J. (2003). Distributional assumptions of growth mixture models: Implications for over-extraction of latent trajectory classes. *Psychological Methods*, 8(3), 338-363.

- Baumeister, R.F. (2002). Ego depletion and self-control failure: an energy model of the self's regulatory function. *Self Identity*, 1(2), 129–136.
- Beaver, K. M., Wright, J. P., & DeLisi, M. (2008). Delinquent peer group formation: Evidence of a gene X environment correlation. *The Journal of genetic psychology*, 169(3), 227-244.
- Bennett, W. L. (2012). The Personalization of Politics: Political Identity, Social Media, and Changing Patterns of Participation. *The ANNALS of the American Academy of Political and Social Science*, 644(1), 20–39.
- Berry, C. M., Ones, D. S., & Sackett, P. R. (2007). Interpersonal deviance, organizational deviance, and their common correlates: A review and meta-analysis. *Journal of Applied Psychology*, 92(3), 410–424.
- Bessi, A., Caldarelli, G., Del Vicario, M., Scala, A., & Quattrociocchi, W. (2014). Social determinants of content selection in the age of (mis) information. In *Social Informatics* (pp. 259-268). Springer International Publishing.
- Bond R., Collins, D. Hayes, S. J., James, R. B., Parker, D. L., & Zimmer, C. H. (2012). An experiment in social influence and political mobilization. *Nature*, 489(7419), 295–298.
- Brogatta, E. F. (1964). The structure of personality characteristics. *Behavioral Science*, 12(1), 8-17.
- Brownfield, D. & Sorenson, A. M. (1993). Self-Control and Juvenile Delinquency: Theoretical Issues and an Empirical Assessment of Selected Elements of a General Theory of Crime. *Deviant Behavior*, 14(3), 243–64.

- Cochran, J. K. (1989). Another look at delinquency and religiosity. *Sociological Spectrum*, 9(2), 147-162.
- Cohen-Cole E & Fletcher J.M. (2008) Is obesity contagious? Social networks vs. environmental factors in the obesity epidemic. *Journal of Health Economy*, 27(5):1382–1387.
- Conley, J. J. (1985). Longitudinal Stability of Personality Traits: A Multitrait-Multimethod-Multioccasion Analysis. *Journal of Personality and Social Psychology*, 49(2), 1266-1282.
- Craig, D. B. (2000) *Fireside Politics: Radio and Political Culture in the United States, 1920-1940*. Baltimore: Johns Hopkins University Press.
- Daly, K. (1989). Neither conflict nor labeling nor paternalism will suffice: Intersections of race, ethnicity, gender, and family in criminal court decisions. *NPPA Journal*, 35(1), 136-168.
- Dardenne, B., & Leyens, J. P. (1995). Confirmation bias as a social skill. *Personality and Social Psychology Bulletin*, 21(11), 1229-1239.
- Dhami, N. J. (2012). Outbreaks of sentimentitis – riding the social media tiger. *Global Connections*, 3(4) 81-102.
- Duffy, S. A. (2015, October 27). Arrest of South Carolina teen who texted in class prompts civil rights case. *The Chicago Tribune*, pp. B8, BB.
- Endler, N. S., & Magnusson, D. (1976). Toward an Interactional Psychology of Personality. *Psychological Bulletin*, 83(2), 965-974.
- Engels, R. C., & TerBogt, T. (2001). Influences of risk behaviors on the quality of peer relations in adolescence. *Journal of youth and adolescence*, 30(6), 675-695.

- Finney, S. J., Pieper, S. L., & Barron, K. E. (2004). Examining the psychometric properties of the Achievement Goal Questionnaire in a general academic context. *Educational and Psychological Measurement, 64*(2), 365-382.
- Fowler, J. H. & Christakis N. A. (2008) Dynamic spread of happiness in a large social network: longitudinal analysis over 20 years in the Framingham Heart Study. *BMJ, 337*(4), 2199-2238.
- Freeman, H., & Brown, B. B. (2001). Primary attachment to parents and peers during adolescence: Differences by attachment style. *Journal of Youth and Adolescence, 30*(6), 653-674.
- Gardner, L., & Shoemaker, D. J. (1989). Social bonding and delinquency. *The Sociological Quarterly, 30*(3), 481-500.
- Ghazi, D., Inkpen, D., & Szpakowicz, S. (2010, June). Hierarchical versus flat classification of emotions in text. In *Proceedings of the NAACL HLT 2010 workshop on computational approaches to analysis and generation of emotion in text*, 140-146. Association for Computational Linguistics.
- Ghazi, D., Inkpen, D., & Szpakowicz, S. (2014). Prior and contextual emotion of words in sentential context. *Computer Speech & Language, 28*(1), 76-92.
- Gibbs, J. P., & Martin, W. T. (1964). *Status integration and suicide: A sociological study*. University of Oregon books.
- Gibbs, J. R. (1987). The State of Criminological Theory. *Criminology, 25*(4), 821-40.
- Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.

- Guillory J. A. (2011). Upset now? Emotion contagion in distributed groups. *Proc ACM CHI Conference on Human Factors in Computing Systems*. Association for Computing Machinery, New York, 745–748.
- Higgins, G. E., Wolfe, S. E. and Marcum, C. D. (2008). Digital piracy: An examination of three measurements of self-control. *Deviant Behavior*, 29, 440-460.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley: University of California Press.
- Hirschi, T. (1973). Procedural Rules and the Study of Deviant Behavior. *Social Problems*, 21(2), 159–73.
- Hirschi, T. & Gottfredson, M. (1995). Control Theory and the Life-Course Perspective. *Studies on Crime and Crime Prevention: Annual Review*, 4(1), 131–42.
- Hirschi, T., & Gottfredson, M. (2001). Self-control theory. In: Raymond P, Ronet B (eds) *Explaining criminals and crime: Essays in contemporary criminological theory*. Roxbury, Los Angeles, pp 81–97.
- Hirschi, T. (2004). Self-control and crime- Handbook of self-regulation: Research, theory, and applications, (pp. 537-552). New York, NY, US: Guilford Press, xv, 574 pp.
- Jeyaraj, A., & Malone, L. (2011). Trial, Adoption, Usage and Diffusion of Social Media. Wright State University, Dayton, Ohio.
- Junco, R., Heiberger, G., & Loken, E. (2011). The effect of Twitter on college student engagement and grades. *Journal of Computer Assisted Learning*, 27(2), 119-132.
- Junger, M., & Marshall, I. H. (1997). The interethnic generalizability of social control theory: An empirical test. *Journal of Research in Crime and Delinquency*, 34(1), 79-112.

- Kish, L. (1965). Survey sampling.
- Kramer A. O. (2012) The spread of emotion via Facebook. *Proc CHI* (Association for Computing Machinery, New York), pp 767–770.
- Kramera, A.D., Guillory J. E., & Hancock, J.T. (2014). Experimental evidence of massive-scale emotional contagion through social networks. *Proceedings of the National Academy of Science (PNAS)*, 46(3), 711-746.
- Krohn, M. D., & Massey, J. L. (1980). Social control and delinquent behavior: An examination of the elements of the social bond. *The Sociological Quarterly*, 21(4), 529-543.
- Lipsitz, S. P. (2003). A two-stage logistic regression model for analyzing inter-rater agreement. *Psychometrika*, 289-298.
- Longshore, D.B. (1998). Self-Control and Criminal Opportunity: A Prospective Test of the General Theory of Crime. *Social Problems*, 45(1), 102–13.
- Longshore D., Chang E., Hsieh S.C, Messina N. (2004). Self-control and social bonds: a combined control perspective on deviance. *Crime Delinquency*, 50(5), 542–564.
- MacCoun, R. J. (1998). Biases in the interpretation and use of research results. *Annual review of psychology*, 49(1), 259-287.
- Marche, S. V. (2012, March 8). Is Facebook making us lonely? *The Atlantic Monthly*, 32 (9), 77-82.
- Marcus, R. F., & Betzer, P. D. (1996). Attachment and antisocial behavior in early adolescence. *The Journal of Early Adolescence*, 16(2), 229-248.
- Micalizzi, A. (2014). Cyber-Self. Identity Technologies: Constructing the Self Online, 217.



- Nakhaie, M. R., Silverman, R. A., & LaGrange, T. C. (2000). Self-control and social control: An examination of gender, ethnicity, class and delinquency. *Canadian Journal of Sociology, 25*(6), 35–39.
- Nylund, K. L., Asparouhov, T., & Muthén, B. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling, 14*(2), 535-569.
- O’Keefe, G. S., & Clarke-Pearson, K., (2011). The Impact of Social Media on Children, Adolescents, and Families. *American Academy of Pediatrics, 127*, 800-804.
- Ousey, G. C., & Wilcox, P. (2007). The interaction of antisocial propensity and life-course varying predictors of delinquent behavior: Differences by method of estimation and implications for theory. *Criminology, 45*(3), 313-354.
- Pallant, J. (2013). *SPSS survival manual*. McGraw-Hill Education (UK).
- Pang, B., & Lee, L. (2005, June). Seeing stars: Exploiting class relationships for sentiment categorization with respect to rating scales. In *Proceedings of the 43rd Annual Meeting on Association for Computational Linguistics*, (pp. 115-124). Association for Computational Linguistics.
- Peterman, R. M., & Anderson, J. L. (1999). Decision analysis: a method for taking uncertainties into account in risk-based decision making. *Human and Ecological Risk Assessment: An International Journal, 5*(2), 231-244.
- Piquero, A.R. & Bouffard, J. (2007). Something old, something new: a preliminary investigation of Hirschi’s redefined self-control. *Justice Quarterly, 24*, 1-27.

- Reed, G. E., & Yeager, P. C. (1996). Organizational offending and neoclassical criminology: Challenging the reach of a general theory of crime. *Criminology*, 34(8), 357–382.
- Rosenquist J.N., Fowler J.H., & Christakis N.A. (2011) Social network determinants of depression. *Molecular Psychiatry*, 16(3), 273–281.
- Ryfe, D. M. (2001). From media audience to media public: a study of letters written in reaction to FDR's fireside chats. *Media, Culture & Society*, 23(6), 767-781.
- Schau, H. J., & Gilly, M. C. (2003). We are what we post? Self-presentation in personal web space. *Journal of Consumer Research*, 30(3), 385-404.
- Schreck, C. J., Stewart, E. A., & Fisher, B .S. (2006). Self-control, victimization, and their influence on risky lifestyles: A longitudinal analysis using panel data. *Journal of Quantitative Criminology*, 22(4), 319-340.
- Shirky, C. B. (2011). The political power of social media: Technology, the public sphere, and political change. *Foreign Affairs*, 90(1), 28–41.
- Short, J., William, E., & Christie, B. (1976). *The social psychology of telecommunications*. Hoboken, NJ: John Wiley & Sons, Ltd.
- Stewart, J. B. (2014). *Opinion and Reform in Hume's Political Philosophy*. Princeton University Press, pp. 160–164.
- Tittle C.R., Ward D.A., & Grasmick H.G. (2004). Capacity for self-control and individuals' interest in exercising it. *Journal of Quantitative Criminology*, 20(4), 143–172.
- Turkle S (2011) *Alone Together: Why We Expect More from Technology and Less from Each Other*. Basic Books, New York.

- Turkle, S. (2011). *Life on the Screen*. Simon and Schuster.
- Tumasjan, A., Sprenger, T. O., Sandner, P. G., & Welpe, I. M. (2010). Predicting elections with twitter: What 140 characters reveal about political sentiment. *ICWSM, 10*, 178-185.
- Unnever, J. D., Cullen, F. T., Mathers, S. A., McClure, T. E., & Allison, M. C. (2009). Racial discrimination and Hirschi's criminological classic: A chapter in the sociology of knowledge. *Justice Quarterly, 26*(3), 377-409.
- Vitaro, F., Brendgen, M., & Tremblay, R. E. (2000). Influence of deviant friends on delinquency: Searching for moderator variables. *Journal of abnormal child psychology, 28*(4), 313-325.
- Vohs, K.D. & Heatherton T.F. (2000). Self-regulatory failure: a resource-depletion approach. *Psychology & Science, 11*(5), 243-254.
- Wagner, R., Küng, J., Pröll, B., Buttinger, C., Feilmayr, C., Freudenthaler, B., & Leithner, W. (2009). Information and Semantics in Databases and on the Web. *In Hagenberg Research*, (pp. 281-331). Springer Berlin Heidelberg.
- Wallace, H.W. & Baumeister R.F. (2002). The effects of success versus failure feedback on further self-control. *Self Identity, 1*(2), 35-42.
- Ward, J. C., & Ostrom, A. L. (2006). Complaining to the masses: The role of protest framing in customer-created complaint web sites. *Journal of Consumer Research, 33*(2), 220-230.

## APPENDIX



Institutional Review Board  
Office of Research and Sponsored Programs  
903 Bowers Blvd, Huntsville, TX 77341-2448  
Phone: 936.294.4875  
Fax: 936.294.3622  
[irb@shsu.edu](mailto:irb@shsu.edu)  
[www.shsu.edu/~rgs\\_www/irb/](http://www.shsu.edu/~rgs_www/irb/)

DATE: October 27, 2016

TO: Teri Ford [Faculty Sponsor: Dr. Jurg Gerber]

FROM: Sam Houston State University (SHSU) IRB

PROJECT TITLE: *Life Unfiltered: Social Control Theory in the Age of Social Media [T/D]*

PROTOCOL #: 2016-10-31843

SUBMISSION TYPE: INITIAL REVIEW

ACTION: DETERMINATION OF EXEMPT STATUS

DECISION DATE: October 27, 2016

REVIEW CATEGORY: Category 4—research involving existing, publicly available data usually has little, if any, associated risk, particularly if subject identifiers are removed from the data or specimens.

Thank you for your submission of Initial Review materials for this project. The Sam Houston State University (SHSU) IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will retain a copy of this correspondence within our records.

**\* What should investigators do when considering changes to an exempt study that could make it nonexempt?**

It is the PI's responsibility to consult with the IRB whenever questions arise about whether planned changes to an exempt study might make that study nonexempt human subjects research. In this case, please make available sufficient information to the IRB so it can make a correct determination.

If you have any questions, please contact the IRB Office at 936-294-4875 or [irb@shsu.edu](mailto:irb@shsu.edu). Please include your project title and protocol number in all correspondence with this committee.

Sincerely,

Donna Desforges  
IRB Chair, PHSC

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Sam Houston State University IRB's records

**VITA****TERI L. FORD****EDUCATION**

Master of Arts student in Criminology and Criminal Justice  
Sam Houston State University, August 2015—present.

Thesis title: “LIFE UNFILTERED: SOCIAL CONTROL THEORY IN THE AGE OF  
SOCIAL MEDIA AND SUBSTANCE ABUSE”

Bachelor of Science student in Justice Systems  
Truman State University, August 2012—December 2014.

**ACADEMIC EMPLOYMENT**

Graduate Assistant, Department of Criminology and Criminal Justice  
Sam Houston State University, August 2015—present.

Responsibilities include: Assisting professors with grading papers and weekly discussion  
boards, assisting professor with duties that is an editor for the *Journal of School Violence*.

**PROFESSIONAL MEMBERSHIPS**

American Society of Criminology (ASC)  
Academy of Criminal Justice Sciences (ACJS)