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Adolescent perceptions of addiction: a mixed-methods exploration of Instagram hashtags and adolescent interviews

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ADOLESCENT PERCEPTIONS OF ADDICTION: A MIXED-METHODS EXPLORATION

OF INSTAGRAM HASHTAGS AND ADOLESCENT INTERVIEWS

A dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Education in Learning Technologies

by

Colleen Marie Brazill-Murray

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Kay Davis, Ed.D. – Dissertation Chairperson

This dissertation, written by

Colleen Marie Brazill-Murray

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

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DEDICATION

To all of the still sick and suffering – when we're breathing there is the greatest hope.

And to all of the soldiers of love; whether you are active in education, law enforcement, social services, journalism, government, 12 steps, rehabilitation services, religious or civic organizations, or anyone else in this world committed to stopping addiction with inclusive, unconditional, love.

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VITA

Title, Name, and Position: Colleen M. Murray, High School Teacher, Southern Regional School District, New Jersey.

Education History:

M.A. in Instructional Technology, Stockton College, 2014

M.A., in Educational Leadership, Kean University, 2003

M.S., in Secondary Education, University of Pennsylvania, 1998

B.A., in History, University of Pennsylvania, 1996

Leadership Experience:

Professional development systems convener 2014-Present. Researched, designed, and implemented district-wide professional development.

Awarded honors by Pepperdine University for program research and design, 2016.

Program Coordinator, 2014-2016, Pepperdine University, Graduate School of Education and Psychology. Acted as cadre organizer and liaison, plan logistics for face-to-face sessions, organize communication, provide confidential support to members, coordinate professional development special events and webinars.

Staff Trainer in computer technologies and instructional strategies, 2013-2016.

Google Innovator (previously known as Google Certified Teacher),2012-present

Google Apps for Education (GAFE) trainer, 2012-present

Acting Vice Principal in Principal's Pinch Hitter Program, Assisted Southern Regional School District administration with Assistant Principal duties, two periods each day 2008-2009

Community liaison: hosted numerous expert guest panels for historical and career education, 2006-Present

Class Advisor, 2006-2008

Created the following annual activities: Freshmen and Sophomore Service Days

Creator and mentor: Investing Club, Yoga/Meditation Club, Social Studies Club, Students Against Destructive Decisions Club.

<u>Authenticated voting procedure</u> for entire district using NJ State election technology

<u>Coordinated and implemented Close-Up trip</u> to Washington D.C. for 100 students

Employment History

<u>Secondary Education Teacher,</u> Southern Regional School District, 2001-Present. United States History I and II, World History, Sociology, and Psychology. Created curriculum integrating the NETS and NJCCCS.

<u>Secondary Education Teacher</u>, Pinelands Regional School District, 1998-2001 Civics, Mock Trial and Geography, Designed curriculum integrating the WRCCS and NJCCCS

Conference Presentations
TeachMeet NJ, presenter, Eportfolio Assessment, 2016
From My Class to Yours, presenter, Measuring growth with e-portfolios, 2014
NY/NJ Google Summit, Common Core, growth & Google Sites, 2014
NJEA Conference, Implementing, scaffolding, assessing E-Portfolios, 2013
From My Class to Yours, E-portfolios and metacognition, 2013
NY/NJ Google Summit, E-Portfolios with Google Sites, 2013
Google Integration, lead district through integration process, 2013

Learning to Transform Lives, multiple technology workshops	2013
NJEA Annual Conference, Data driven professional development	2013
NJEA Annual Conference, E-portfolio assessment	2012
NJEA Annual Conference, Collaborize classroom	2011
Teaching Portfolio Assessment, in-service, SRSD	2010
NJEA Annual Conference, Mock Trials in Social Studies Classroom	2003
Ethnography Conference, Guest Speaker, University of Pennsylvania	1998

Grants
BP America Grants totaling more than $4,000
NJEA Frederick L. Hipp Foundation, obtained grant for $7,875
Library Research Award, Pepperdine University, outstanding use of resources $150

Technology Skills

Windows Applications, High School ClassXP, Genesis, Integrade Pro, Schooldude, Web Track, First Class, Research Databases, Curriculum Mapper, Smartboard, Web 2.0 applications, Web 3.0, Blended Instruction, Web Design, Integration of Educational Technology with the Common Core; Google Apps for Education; Blackboard, Adobe Connect, social media, SPSS, Hyperresearch, SAKAI, Kydon, Computer Programing

Licenses, Training and Certificates

<u>Social Studies</u>, standard certification - teach social studies to any grade level

K to 8, standard certification - teach all subjects, kindergarten to 8th grade level

Supervisor, standard certification - any subject supervision in any public school

Supervisor/Principal, standard certification - lead as principal for any public school

Victims Crime Advocate, Sexual Assault Response Team certification - extensive training and certification to guide victims of assault

Advance Placement (AP) Micro and Macro Economics - certified to teach AP in any school

Google Innovator (previously known as Google Certified Teacher) - serve as model for innovative teaching

Google Educator - passed four rigorous subject tests in Google applications

Committees and Organizations

Site-based committee member for improvement of district, 2006-2010
Instructional Council member for district wide improvement of instruction, 2008-present
New Jersey Teacher Advisory Panel (NJTAP), 2013-2015
Association for Supervision and Curriculum Development (ASCD), 2013-present
New Jersey Principals and Supervisors Association (NJPSA), 2014-present
American Educational Research Association (AERA), 2014-present
Association for Computing Machinery (ACM), chapter Treasurer, 2014-present
School Improvement Committee (ScIP), 2015-present

ABSTRACT

Addictive disorders are a public health crisis that affects our society by draining our workforce,

health care, judicial, education, and law enforcement, resources. Adolescents are particularly

susceptible to social influence - for better and for worse - and addiction. Through social media,

today's youth experience a whole new way of communicating. Not enough is known about

adolescent perceptions of addiction, and messages of addiction they are exposed to on social

media. Social Learning Theory and the Learning Theory of Addiction provided the framework

for understanding how adolescents are at risk for developing unhealthy practices that create

numerous psychological, social and physical problems in adulthood. Concurrent, mixed-

methods, were used to explore adolescent perceptions of addiction and Instagram hashtags

related to addiction. A content analysis of Instagram hashtags related to addiction and interview

data from 11 adolescents aged 16-18 from a Students Against Destructive Decisions (SADD)

club in New Jersey was collected and analyzed. The sample for phase one of this study was

comprised of 819,155 Instagram posts, hashtagged #addiction, #recovery, #alcohol, and #drugs,

collected on 5 dates over a month. Phase 2, adolescent interviews, included open-ended and

Addiction Belief Survey (ABS) questions. The study's findings led to the conclusion that the

adolescents interviewed have uncertain, and at times prejudicial, understandings of addiction.

They see social media as potentially helpful in the fight against addiction and feel protected from

negative messages of addiction by a strong circle of friends and family. Addiction related posts

on Instagram, though littered with unhealthy messages, reflect the belief that addiction is

recoverable and avoidable through social support. Adolescent perceptions of addiction align with

those expressed on Instagram in both healthy and unhealthy ways. Beliefs of addiction expressed

by adolescents and on Instagram reflect recent findings in the scientific literature on the nature of

addiction, stigma, social support, and wellness. Study recommendations include for school and government leadership to take a multi-pronged, community based, approach in supporting adolescents. Future research should focus on social media support for adolescents and adolescent social learning of addiction. Secondary school curricula and interventions that include social media should be created and improved using design-based research because it allows for evidence-based improvement.

Chapter One: Introduction

Addictive disorders pose a dire threat to the well-being of adolescents. Adolescence is a transitional and developmental stage between childhood and adulthood, during which individuals are particularly susceptible to addiction and influence (Casey, Jones, & Hare 2008; Siegel, 2015; Steinberg, 2014; Steinberg & Morris, 2001). Typically known as the teen years adolescence is now understood to begin earlier and end later than was once thought. This period is a special time of physical, social, cognitive, psychological, and legal changes with markers for its start and end. Neuroscience of the past decade has revealed physical, cognitive, and biological attributes that mark adolescence as lasting much longer than was traditionally thought (Alarcon, Cservenka, Rudolph, Fair, & Nagel, 2015; Casey et al., 2008; Steinberg, 2008, 2014). Adolescents usually experience increasing independence and a variety of changes, which includes cognitive growth, which allows them to think more abstractly and socially as they progress towards adulthood (World Health Organization [WHO], 2011). Psychology, sociology, history, biology, education, and anthropology, impact this developmental phase (Larson & Wilson, 2004). Therefore, the study of adolescence needs to be approached from multiple disciplines to understand this transitional time thoroughly. This study approaches adolescence with this understanding and focuses on adolescent beliefs of addiction as malleable and socially influenced by learning technologies (Siegel, 2015; Steinberg, 2014; Steinberg & Morris, 2001).

Adolescence is a sensitive time of life that provides an excellent opportunity for personal, cognitive, and emotional growth through social learning. However, it is also a time of significant risks, such as those invited by addictive behaviors (Moses, 2009; Siegel, 2015; Steinberg, 2014; Szalavitz, 2016; Tough, 2013). Addiction is characterized by substance seeking and use, that is difficult or impossible to control, regardless of harmful consequences (National Institute on Drug

Abuse [NIDA], 2016a). Researchers know that behavioral strategies that support a healthy life protect adolescents from addiction (Doumas, Miller, & Esp, 2017). One healthy behavioral strategy that offers adolescents protection is a connection with others via social networks (Chiu, Ho, Lo, & Yiu, 2010; Latimer, Newcomb, Winters, & Stinchfield, 2000). Researchers also know that principles of prevention and recovery from addictive disorders hinge on supporting social connectedness (NIDA, 2015). Through connection with others, individuals can find a sense of meaningful belonging that is fundamental and necessary so that they may share personal stories that include coping strategies for overcoming difficulties (Jernigan & Rushman, 2014). Social Learning Theory supports this process (Wenger, 2000). Social media allows researchers to observe social learning.

Social Learning Theory explains that adolescents learn socially (Poehner, 2012; Vygotsky, 1980) and social media, such as Instagram, allows for social learning with the use of computer-mediated technologies that enable the sharing of ideas and expression through virtual communities and networks. Because of the wide variety of social media services available, defining what constitutes social media is difficult. However, there are common characteristics that help to define social media (Obar & Wildman, 2015). The definition is somewhat dependent on context. Notwithstanding, there are several universal aspects. These aspects include a set of online tools made for and focused on social interaction and a conglomeration of web-based services and technologies. These technologies are blogs, micro-blogs (Instagram, Twitter), social sharing services like YouTube, text messaging, editing tools (wikis), forums, virtual worlds, and social networking services like Facebook. There are various reasons adolescents engage with social media; some of the most prominent themes involve the ability of the users to make their own decisions and have a say over their public life, the potential to sway the opinions of others,

and media being user-directed. With the use of social media, adolescents can learn socially through connecting with others (Carpenter, Robinson, Johnson, & Blum, 2014).

Social media, such as Instagram, affords adolescents access to peer-to-peer support. Using social media, they can get advice, find interventions to help them with problems, and share with others who understand (Naslund et al., 2016). Most of these benefits are known to be present in face-to-face settings, and there are benefits to connecting face-to-face that cannot be achieved by connecting on social media, such as physical contact and body language communication. However, there are benefits to connecting on social media that connecting face-to-face does not afford, particularly the benefits of greater access to social support and interventions for the immobile or socially fearful (Reid Chassiakos et al., 2016; Naslund et al., 2016). This means that social media is helpful because it affords social support for those sensitive to anxiety. This is particularly significant because anxiety sensitivity is one of the four traits known to predict adolescent substance addiction (Castellanos-Ryan, O'Leary-Barrett, Sully, & Conrod, 2013). Whether adolescents witness positive or negative information about addiction on social media, those messages may influence adolescent learning. Yet, researchers do not know the nature of those messages, nor what adolescents believe about addiction.

The vast majority of social media research has been quantitative. However, it is necessary to also qualitatively explore adolescent perceptions of addiction as well as to quantitatively explore the content found on Instagram messages that are categorized by hashtags related to addiction. The former method relies on a constructivist worldview; the latter is a pragmatist approach. Constructivist researchers often address the process of interaction among individuals with an intention to interpret the meanings others have about the world. Rather than start with a theory, researchers inductively develop a pattern of meaning with an understanding that humans

construct meaning as they engage with the world. The primary generation of this meaning is always social because adolescents create truth and meaning through interaction with the world. Therefore, qualitative interviews are the best approach in determining adolescent beliefs of addiction because meaning is not discovered by others but constructed by the individual through interaction. Individuals look for meaning through searching for subjective meaning. This theoretical perspective is interpretivist in that it attempts to explain individual beliefs given a historical and cultural interpretation (Crotty, 1998).

Background of the Problem

While adolescence is a wonderful time of personal growth, adolescents are particularly susceptible to addiction (Pierce, Choi, Gilpin, Farkas, & Merritt, 1996; Siegel, 2015; Steinberg, 2014; Szalavitz, 2016). Nationwide, nearly 15% of adolescents ages 12-17 drink alcohol regularly. This statistic is dangerous because early drinking is a strong predictor of alcoholism (Grant & Dawson, 1997; Treno, Grube, & Martin, 2003). Nearly one in 10 adolescents ages 12-17 is a current elicit drug user. Three-quarters of U.S. adolescents report using addictive substances by the 12th grade. Nationally, more than 30% of youth ages 12-21 binged on alcohol within the past 2 weeks. Daily marijuana use is at its highest levels in 3 decades, and for students who do not go to college, use is twice as high (NIDA, 2015). Substance use is a top cause of morbidity and mortality for adolescents (R. Brown et al., 2016). Most youth suicides were diagnosed with drug or alcohol abuse problems (Pompili et al., 2010). Food and internet addiction can also develop during adolescence (DePierre, Puhl, & Luedicke, 2014; Guan & Subrahmanyam, 2009). Addiction develops during adolescence and is preventable (Chen & Kandel, 1995; Kessler et al., 2005). However, researchers do not yet know what adolescents understand, or misunderstand, about addiction.

Although educators, parents, and other sources expose adolescents to the message that substances are addictive, they have no consistent idea of what addiction means. For instance, they understand certain components of addiction but are uncertain how to describe it comprehensively (Roditis, Lee, & Halpern-Felsher, 2016). Adolescents cannot know how to avoid and treat addiction if their understandings are unclear. However, if adolescents have difficulties honing in on a precise definition of addiction, it may be because the definition of addiction is multi-faceted, strikingly complex, and continually evolving (Pickard, Ahmed, & Foddy, 2015). Still, while researchers do not yet know what causes addictive disorders (Hasin et al., 2013; Holton, 2016), they do know that addiction is biological, psychological, social, and sociocultural in nature (Sallis, Owen, & Fisher, 2008). They also know that it responds to therapeutic interventions (NIDA, 2016b). Therapeutic interventions need to continue to adapt based on new research findings.

Dating back to our nation's early days, founding father Benjamin Rush (as cited in Elster, 2012) pioneered the therapeutic approach to addiction and with this approach came disagreements about addiction that have remained through the centuries. Rush perceived individuals with alcoholism as having lost control because of the properties of alcohol, as opposed to succumbing to poor moral choices resulting from personal shortcomings or sin, as was the perception at that time. Thus, the concept of alcoholism as a form of a medical disease developed (Elster, 2012). For the past hundred years or so, theories of addiction and motivation have been largely polarized. Some see addiction as disease and others see it as a moral issue by proxy of choice. Still others give weight to the biological, contextual, and historical factors that are significant in addiction (Pickard et al., 2015). There are many causes and models of addiction, but for this study, the researcher is operating from the learning theory of addiction.

This theory holds that individuals learn addictive disorders socio-culturally (Engeström, Miettinen, & Punamäki, 1999; Hyman, 2005; Hyman, Malenka, & Nestler, 2006).

The learning theory of addiction encompasses social learning theory and is a psychological and mental health model of addiction (Baker et al., 2004). Upon accepting the learning theory of addiction, it is clear that adolescent substance addiction is the result of learning developmental impediments such as social and cognitive abilities like the capacity to self-soothe. Without these abilities, adolescents engage in dangerous and compulsive behaviors that contribute to addiction (Siegel, 2015). These learning difficulties have any number of factors that contribute to their development. For instance, 20% of children under 18 live with a parent who has an alcohol problem (NIDA, 2015). However, adolescents also experience verbal, visual, and audio messages outside the home, such as through Instagram.

Stigma resulting from a lack of understanding of the nature of addiction can manifest in many ways. For instance, our laws, which are intended to protect us, lead to social stigma. In fact, laws by their very nature aim to stigmatize illegal behavior (Hart, 1958). It follows that because drugs are illegal and thus stigmatized, addiction becomes a moral issue (Barry, McGinty, Pescosolido, & Goldman, 2014; Thackery & Harris, 2003). When addictive behaviors are stigmatized, those vulnerable to addictive disorders become shamed (Corrigan et al., 2009). This social stigma can interfere with addiction prevention, recovery, and well-being by interfering with social connection. The result is shame that prevents individuals from help-seeking behaviors (B. Brown, 2006; Ginsburg & Link, 1993; Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001). Stigma has existed long before social media; however, since 94% of adolescents are on social media daily and 24% are online nearly constantly (Lenhart, 2015), there is a need for research that explores potentially stigmatizing or conversely socially supportive

messages on social media. Links between stigma and social connection have been found in recent quantitative studies (Ahn & Shin, 2013; Błachnio, Przepiorka, & Pantic, 2016; Lawlor & Kirakowski, 2014/3; Müller et al., 2016; Singleton, Abeles, & Smith, 2016). If it is found that adolescents are exposed to positive or negative beliefs about addiction on social media, researchers can create more targeted interventions to combat the harmful effects of stigma on adolescent learning.

Statement of the Problem

This study seeks to explore adolescent perceptions of addiction and the messages of addiction they are exposed to socially on Instagram's hashtags related to addiction to determine if they are accurate. Confused messages about the nature of addiction affect adolescent learning (Roditis et al., 2016). Even among researchers, there is noticeable debate over the term addiction that can lead to confusion (Sussman & Sussman, 2011). However, there is agreement that education can reduce stigma (Livingston et al., 2012). This agreement is important because stigma interferes with social relationships that are needed to protect against, and recover from, addiction (Flanagan, 2013). Addictive disorders are a public health crisis that affects our society by draining our workforce, health care, judicial, education, and law enforcement, resources (Jenson & Fraser, 2015; NIDA, 2017). Adolescents are particularly vulnerable to addictive disorders.

Adolescence is a transitional time of vulnerability, but it is also a time of great opportunity because they are susceptible to influence (Siegel, 2015; Steinberg, 2014; Szalavitz, 2016; Tough, 2013). Through social media, today's youth experience a whole new way of communicating that is providing social connections they did not previously have (Hillman & Sherbino, 2015). However, adolescents are particularly susceptible to social influence—for

better and for worse—and addiction (Casey et al., 2008; Siegel, 2015; Steinberg, 2014; Steinberg & Morris, 2001). Instagram is a strong influence in the lives of adolescents; it is rapidly becoming the most popular social media platform preferred by adolescents (Alhabash & Ma, 2017; Reid Chassiakos et al., 2016; Duggan, Ellison, Lampe, Lenhard, & Madden, 2015).

This study can uncover messages adolescents are exposed to socially. If adolescents are exposed to social support using social media, interventions can be created to support this process. Conversely, if adolescents are exposed to inappropriate messages of addiction on social media, they may form incorrect perceptions of addiction. Erroneous messages about addiction, such as those commonly resulting from stigma, can disrupt adolescent social connections, social support, and coping strategy development. There is an urgent need to de-stigmatize substance abuse disorders and to educate the public, clinicians, educators, and policymakers about treatment so they may encourage those affected to get help (Szalavitz, 2016). If researchers discover that adolescents are internalizing social media messages of stigma and shame, they can develop needed integrated messaging regarding the risks of addiction, and outreach interventions to combat such activity (Roditis et al., 2016; Valkenburg & Peter, 2011).

Purpose and Design of the Study

This study explores the adolescent understanding of addiction and messages of addiction to which adolescents may be exposed on Instagram, through hashtagged content related to addiction. Instagram hashtagged posts that are related to addiction were analyzed using a concurrent, mixed-methods design to explore messages of addiction to which adolescents are exposed. Also, 11 adolescents who use Instagram and participated in a Students Against Destructive Decisions (SADD) club were interviewed.

Two methods for exploring adolescents' views were triangulated supporting study validity (Edmondson & Mcmanus, 2007). The primary research question for this study was more exploratory than if the theory of adolescent beliefs of addiction, in light of social media, were more mature. Few explanations of the phenomena of adolescent beliefs of addiction in light of social media exist. The intention of this research is to develop connections to prior work in adolescent addiction development and social support. Qualitative research is suited for health research as well as social media research because of its contextual and flexible nature (Sofaer, 1999).

Research Questions

The central guiding research question for this research was:

- How do adolescents engaging through social media perceive addiction?

Sub-questions included:

- What specific beliefs of addiction are expressed with Instagram hashtags related to addiction?

- How do these beliefs situate with the scientific literature on addiction?

- How do adolescents explain the role of social media in their understanding of addiction?

- How do the adolescent perceptions of addiction gathered through interviews align with the expressed views on Instagram?

Researcher Assumptions

Time after time, my instructors held up to me the basic principle of scientific progress: search and research, again and again, always with an open mind. (12 Steps and 12 Traditions, p. 26-27, 1971)

This research was designed to explore one aspect of the complex development of youth. The focus was on addiction and how viewpoints of adolescents are shared through social media. In choosing a model of addiction to frame this study, the researcher drew from personal experiences as an educator with addictive disorders recovery experiences. This researcher has a personal history of addiction, having recovered from addictions to cigarettes, alcohol, and food with the help of strategies that relied heavily on social learning. Such strategies included peer support groups, mentoring, and cognitive-behavioral therapy. The researcher has had a foster child and raised four children; two of who are stepchildren and lived in separate households with other caregivers for the first several years of their lives. The researcher has taught social studies to adolescents, aged 12 to 18, for 18 years, while studying learning science that is grounded in Social Learning Theory. Through these life events, the researcher has come to value the importance of constructivism, social learning, and sociocultural messages, on adolescent development. The researcher assumes that adolescents talk about addiction with their friends; that adolescents are influenced by what they take in on Instagram, and that adolescents are at risk for developing unhealthy practices that contribute to addiction but are also ripe for learning socially supported practices that contribute to well-being.

While each model of addiction has strengths, the learning theory of addiction best explains the strong components of the process of recovery experienced by the researcher. Social learning formed the backbone of perceived successful help found both in support groups and cognitive-behavioral, family, and psychotherapy. Further, the researcher has perceived both personal and sociocultural harm caused by strict adherence to the Disease Model of addiction. When viewed solely from this perspective, the power of choice for the individual becomes obscured leading to a cycle of learned helplessness (Maier & Seligman, 1976). When the

addicted person perceives a level of choice in their use and recovery, their chances of recovery are improved (Pickard et al., 2015). The value in medication as part of a therapeutic repertoire for some notwithstanding, the researcher has perceived harm done to self, and numerous others, by the over-medicalization that has resulted from popularized beliefs of addiction as a brain disease (Satel & Lilienfeld, 2013). Strict adherence to the other of the two dominant theories of addiction - the Moral Theory of addiction - on the other hand, results in social stigma through shame. Stigma through shame can prevent individuals from help-seeking behaviors (B. Brown, 2006; Ginsburg & Link, 1993; Link et al., 2001), as was the case for this researcher. Only when framed as a socially influenced choice, on the other hand, can we see the value and role of learning in the prevention and recovery from addictive disorders (Pickard et al., 2015).

18 years of experience as a secondary educator influenced the choice to frame this study within the learning and behavioral theory of addiction. The researcher spent these years engaged in a perceived struggle of teacher-practitioner against a culture of education that values pedagogies of fixed mindsets. Fixed mindset reflects a sense of powerlessness that serves as an obstacle to learning. As an educator, the driving hope of this researcher has been to help students as they are learning to learn. In doing so, this researcher played a role in helping thousands of students to learn to learn during these 18 years, conducting multiple scholarly studies that leaned heavily on the science of learning. For instance, an early ethnographic study carried out by this researcher in 1998 found that teachers in an inner-city Philadelphia, high school changed pedagogies based upon student ability groupings and this, in turn, impacted student learning both individually, and in groups. A more recent mixed-methods research study conducted by this researcher found that student metacognition improved through digitally supported social

learning. Most recently, the researcher found through mixed-methods action research that professional development at a regional high school improved through social learning.

The afore-discussed reflexive information serves to reflect upon and evaluate the biases and preconceptions of the researcher so as not to influence this study. By bracketing this information, the biases of the researcher can be known and set aside. This process is vital to understand participants rather than projecting the views of the researcher upon them. It is important to set aside previous research findings and theories in the epoch (Gray, 2013). To that end, in addition to this dialogue before the study begins, a bracketing journal was used for recording perceived biases during data collection, analysis, and final writing, as well as through the entire research process. By recording these perceived biases, the reader maintained a full awareness of potential threats (Ahern, 1999; Gray, 2013).

Delimitations

This study has several delimitations. It focused only on adolescents, ages 16-18, from an after-school club in New Jersey called Students Against Destructive Decisions (SADD), who self-reported use of the social media platform Instagram. SADD is a national organization with 3,500 chapters and more than 10,000 student members nationwide. This organization formed in the 1980s in reaction to adolescent problems related to substance abuse. Adolescents who join SADD commit to the stated mission of the organization – to use peer-to-peer education to confront the risks and pressures that challenge adolescents. The core focus of SADD activities includes substance abuse and mental health awareness and social inclusion (van den Akker, 1999). One strategy the SADD organization has embraced is information creation and sharing via social media. Therefore, students in this group who also use Instagram may offer particularly helpful insights to this study. Instagram is quickly becoming the most popular social media

platform among adolescents (Reid Chassiakos, Radesky, Christakis, Moreno, & Cross, 2016; Duggan et al., 2015). This choice of social media may have created some limitation of adolescent viewpoints since socio-economic status plays a significant role in whether the adolescent has access to the technology required to participate actively with social media such as Instagram (Wangberg et al., 2008). A further limitation arose with the choice of the particular form of social media, Instagram because other social media platforms, such as Snapchat and Twitter, are widely used by adolescents and will not be represented in this study.

Conceptual Foundation

This study relied on several conceptual and theoretical frameworks. Social Learning Theory provided an explanation for how adolescents learn through using social media. Theories of addiction provided the framework for understanding how adolescents are at risk for developing unhealthy practices that create numerous psychological, social and physical problems in adulthood. The definitions provided below include those associated with learning theory and those related to addiction.

Social Learning Framework

- Constructivism is defined as a theory that explains that learners build their intelligence and understandings through experiences and reflecting on those experiences (Flavell, 1979; Vygotsky, 1980). It occurs as adolescents make meaning for themselves.

- Social Learning Theory explains that individuals learn socially (Poehner, 2012; Vygotsky, 1978, 1980). Social Learning Theory is grounded in Constructivism (Flavell, 1979; Vygotsky, 1980).

- Sociocultural Theory grew from Vygotsky's work that stressed the role of culture in shaping learning. Cultural messages shape how understanding occurs (Packer & Goicoechea, 2000).

- Sociocultural learning occurs as adolescents reflect upon cultural messages to make meaning for themselves.

Addiction Framework

- Addiction is defined as the persistent compulsive use of a substance in light of negative consequences incurred by its use (O'Brien, Volkow, & Lee, 2006).

- Choice theory is the idea that all behavior is chosen (Becker & Murphy, 1998).

- Learning Theory of Addiction explains addiction as a learned behavior. Individuals learn addiction through three types of learning: classical conditioning (learning by paired association), operant conditioning (learning from the consequences of behavioral choices), and social learning (learning by observing others; Best et al., 2016).

- Disease Theory of Addiction explains addiction as biological, inherited, and metabolic, conditioned by reinforcement from substance use (Snipes, 2012).

Significance of the Study

This study contributes to the body of knowledge about the complexity of addiction and adolescent development. Growing social media technologies have given us chances for multi-method approaches that can inform how these technologies can be used to help educate the public on health matters (Centola, 2013). The exchange economy of social media has removed hierarchies and allows for broader access to common knowledge that may be shared socially (Velkova, 2016). This study sought to understand connections between adolescent development, addiction, and social media. This is urgent because substance use is a top cause of morbidity and

mortality for adolescents (R. Brown et al., 2016). 75% of US adolescents report using addictive substances by 12th grade. Last year's use of illicit drugs among 12th graders was 23.6 percent. Furthermore, adolescent attitudes about some types of illegal drug use are becoming more tolerant (NIDA, 2015). Lastly, social media use is continuing to rise among adolescents, and more adolescents than ever are using social media (Lenhart, 2015). Therefore, researchers urgently need to learn more about what adolescents believe about addiction and what messages they are exposed to on social media.

Adolescence is a particularly opportune time to learn socially, yet it is a dangerous time to develop or avoid addiction. Most addictions develop during adolescence (Pierce et al., 1996; Siegel, 2015a; Steinberg, 2014; Szalavitz, 2016). During this time, adolescents can socially learn wellness behaviors or fall prey to addictions to myriad substances (DePierre et al., 2014; Guan & Subrahmanyam, 2009). Substance use is the leading cause of misery and death of adolescents (R. Brown et al., 2016). Most adolescent suicide victims were diagnosed with addictions (Pompili et al., 2010). Addictions are preventable (Kessler et al., 2005). Research that can uncover what adolescents believe about addiction in light of social media can help contribute to more helpful prevention interventions.

Not unlike the dualistic nature of adolescence, wherein the transitional time of both risk and opportunity invites both dangers and prospects for the developing adolescent, so too does social media. While social media can provide social connectedness and support that is vital to psychological well-being, social media has inherent dangers, as well (Burke, Kraut, & Marlow, 2011; Dabbagh & Kitsantas, 2012; O'Keeffe & Clarke-Pearson, 2011; Siegel, 2015; Spies Shapiro & Margolin, 2014; Valkenburg & Peter, 2011; Valkenburg, Peter, & Schouten, 2006). Social connection found online affords adolescents access to social support, advice, and

understanding (Naslund et al., 2016). They can learn how to avoid addiction through peer-to-peer connection using social media (S. Yang, 2006). Yet, there are risks with social media use, such as stigma, that can lead an adolescent to social isolation that makes them vulnerable to addiction (Corrigan, 2004; Folsom et al., 2005; Naslund et al., 2016; Pompili, Lester, Innamorati, Tatarelli, & Girardi, 2008). Other dangers that put adolescents at risk include, but are not limited to, the ability to find illegal drugs online, exposure to pro-drug messages (Belenko et al., 2009; O'Keeffe & Clarke-Pearson, 2011) and cyber-bullying (Reid Chassiakos et al., 2016). Studies have shown connections between social media use and concepts like social well-being (Burke et al., 2011; Duggan et al., 2015; Ellison, Steinfield, & Lampe, 2011), loneliness (Teppers, Luyckx, Klimstra, & Goossens, 2014; Wohn & LaRose, 2014), envy (Krasnova, Wenninger, Widjaja, & Buxmann, 2013), and self-esteem (Burke et al., 2011; Krämer & Winter, 2008), as well as depressive symptoms (Feinstein et al., 2013). Still, not enough is known about messages of addiction on social media such as Instagram and how adolescent perceive addiction. To address this deficit, this study explored adolescent understandings of addiction and messages of addiction to which they have been exposed on Instagram, through hashtags related to addiction, to ascertain the potential of social media for influencing adolescent beliefs of addiction.

If researchers know how adolescents are using social media to connect socially as they construct meaning around the concept of addiction, they can develop best practices and interventions for addressing common misperceptions. Both prevention and recovery strategies that rely on social support afforded by social media could be successfully prepared with the help of this research (Best et al., 2016). Social media offers the potential for understanding public health issues and the inexpensive delivery of health interventions (Garimella, Alfayad, & Weber, 2015). An essential component of health education interventions should be to help students learn

to define their identity, and social relations (Paakkari & Paakkari, 2012) and researchers have begun to study how social media can be used to determine the impact of social influence on changing behavior (Centola, 2013). We need to learn how technology shapes social tendencies (Van Dijck, 2013). However, it is not yet clear how to improve the effectiveness of messages exchanged through social media (Guan & Subrahmanyam, 2009). Instagram in particular, because of its popularity amongst adolescents, could be used to help adolescents with peer support (R. Brown et al., 2016; Chamley et al., 2013; Reid Chassiakos et al., 2016). However, research has not yet uncovered what messages adolescents are exposed to on social media, nor what they believe about addiction.

Many studies of social media exist. However, focused research is still needed to understand how the developmental period of adolescence serves to mediate thoughts, feelings, and behaviors that might lead to addiction (C. Yang, 2016). Adolescent perceptions that may influence social stigma, social support, or social capital, can, in turn, impact their behavior (Kiesler & Sproull, 1992; Vaux, 1988). Instagram is a popular social media platform among adolescents (Duggan et al., 2015) that can help focus research on informing future interventions designed to protect them from addiction. Interventions to help adolescents learn to develop social connections, and learn socially, need to be informed by research that takes into account the impact of social media. Addiction is preventable, treatable, and learned developmentally. However, researchers need to know more about what adolescents think to create appropriate interventions.

Interventions that take adolescent thinking and social media into account could help address this gap in mental health and wellness (Barden, Conley, & Young, 2015). The transitional years of adolescence come with both risks and opportunities to develop wellness. A

crucial component of adolescent wellness is the reliance on social support and the avoidance of addiction. But researchers do not yet know enough about how to support adolescent avoidance of addiction in a new world changed by social media. Social media can help provide us with information to help develop precise strategies we need to communicate effectively to address the problem of adolescent substance addiction (NIDA, 2014).

Prevention, early intervention, and recovery hinge on social learning through social support (O'Brien et al., 2013). Identity development could be damaged if adolescents encounter unhealthy messages on social media that cause impediments to social learning and lead to social isolation. Research on early intervention and prevention from the lens of social learning could lead to methods to help spot at-risk adolescents before mental health issues begin to ruin their lives (Ryan, Shochet, & Stallman, 2010). Social media is a helpful health resource and can be used to deliver inexpensive interventions, but we need to understand how we can improve the effectiveness of messages exchanged through social media (Guan & Subrahmanyam, 2009; Moses, 2009). Social media technologies such as Instagram provide researchers with treasure troves of data from which to learn about how adolescents make decisions as social agents. This information can support the creation of strategies to help adolescents with peer support (R. Brown et al., 2016; Chamley et al., 2013; Reid Chassiakos et al., 2016).

Through social media, such as Instagram, we can learn what adolescents believe and how they make decisions and influence each other, such as through healthy or harmful messages of addiction (Chamley et al., 2013). If stigma toward addiction is occurring on social media, we can determine how it might be associated with adolescent well-being. However, more research is needed to uncover the potentially stigmatizing and inimical messages adolescents come across on social networking sites that may relate to their well-being. We could explore how adolescents

find and choose strategies to manage social stigma, and how those strategies connect with psychological distress (Singleton et al., 2016). By learning how adolescents are engaging with social learning on social media such as Instagram, we can better understand how they learn about addiction. Adolescents need help as they learn to foster their emotional well-being and psychological resilience that hinges on collaboration, reflective dialogue, repair, coherent narratives, and emotional communication (Afifi & Macmillan, 2011; Duckworth & Yeager, 2015; Siegel, 2001).

Chapter Summary

Adolescence is a pivotal time of life that provides both significant risks for danger, and a great opportunity for personal development through social learning (Casey et al., 2008; Siegel, 2015; Steinberg, 2014; Steinberg & Morris, 2001). Since social isolation contributes to addictive disorders, and social support can protect against them, understanding how adolescents interact with each other through social media about topics associated with addiction can help adults prevent adolescent social isolation and promote social connection and support to ensure they make healthy choices. Since social media can afford social connectedness and support, and since prevention and recovery principles hinge on both, we need to know more about what adolescents believe about addiction as well as what messages of addiction adolescents are exposed to on social media like Instagram.

Chapter Two: Literature Review

This study focused on adolescent perceptions of addiction as expressed by Instagram hashtags related to addiction and through interviews with adolescents involved in the extracurricular SADD club who also use social media. The theoretical framework for this mixed-methods exploratory study includes Social Learning Theory (Poehner, 2012; Vygotsky, 1978, 1980) and the Learning Model of Addiction (Akers, 1985; Engeström et al., 1999). These two theories are superior for understanding adolescent perceptions of addiction as opposed to other theories that place little or no emphasis on the power of personal choice as it pertains to addiction. A third theoretical discussion explains how social media has a predominant influence on adolescents and their identity and self-behavior formation. This chapter begins with a description of an explanation of the rationale for choosing Social Learning Theory to frame the study, and then the Learning Theory of Addiction is presented vis-à-vis some other common theories of addiction. Next, adolescence is discussed as a time of dire risks and prime opportunities for personal development towards wellness, especially concerning social support and social isolation. The risks and benefits of social media and its other various pertinent characteristics explain how its use is relevant for addiction, prevention, treatment, and recovery. An explicit connection between Social Learning Theory, adolescence, social support and isolation, social media, and addiction is established. This chapter concludes with the rationale for selecting the particular social media platform of Instagram and adolescent interviews for this mixed-methods exploratory research.

Social Learning

> Our default network directs us to think about other people's minds – their thoughts, feelings, and goals. (Lieberman, p. 19, 2013)

Hazards like addictive disorders threaten adolescent well-being, but if we can learn how they develop socially, such as through the use of social media, we can better support their healthy development. Social Learning Theory illustrates that people learn socially (Poehner, 2012; Vygotsky, 1980). It is grounded in Piaget's Theory of Constructivism that explains that learners construct their intelligence and understanding of the world through experiences and reflecting on those experiences (Flavell, 1979; Piaget, 1976; Vygotsky, 1980). Vygotsky's work flowered into the emerging theory in psychology known as Sociocultural Theory (Jaramillo, 1996; Wells, 1999). To help adolescents avoid hazards like addiction and develop well-being, an understanding of the role of Social Learning Theory, grounded in Constructivism and Sociocultural Theory is necessary.

Constructivism. To understand how adolescents learn socially requires an understanding of Constructivism. Piaget's Theory of Constructivism demonstrates that learners build their intellect and perceptions of the world through experiences and reflections of those experiences (Flavell, 1979; Vygotsky, 1980). When we confront new information and ideas, we have to integrate it with our previous understandings. Our minds are organized into schema into which new learning is organized. To do this, we think, ask questions, explore, and check against what we already know. For this reason, schools and even entire countries have been questioning what is thought of as teacher-centered curricula and replacing it with what is considered learner-centered curricula (Bransford, Brown, & Cocking, 2000). Theories and practices such as Differentiated Instruction, Problem Based Learning, Personalized Learning, and the Common Core are grounded in Constructivism. The role of the teacher-as-guide notwithstanding, in the Constructivist environment, the learner is actively engaged in the learning process. Constructivist engagement hinges on experiences that by necessity involve others.

Near the same time, Piaget was studying how learning is constructed in the mind of the learner based on experiences and reflection, Lev Vygotsky was developing his Social Learning Theory. This theory demonstrated that the learner is always in a state of transition from other-regulated to self-regulated functioning and that reflective evaluation is crucial to this process (Poehner, 2012). Vygotsky's Theory perhaps bridged the gap between Piaget's Constructivism and Social Learning. In Mind and Society, written in 1930 but not published for another 50 years, Vygotsky wrote,

> Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (Vygotsky, 1978, p.57)

This quote explains the role of others in learning. Vygotsky described what he called the *More Knowing Other* and the *Zone of Proximal Development* as key to understanding learning with others. Peers who have recently learned what the learner is trying to learn are in the best position to act as More Knowing Others, helping learners discover what they need to know in the created space between themselves and the learner (Vygotsky, 1978). This common-ground space is known as their Zone of Proximal Development, and it is found through social interaction (Tharp & Gallimore, 1991). Vygotsky's (1980) focus on the social nature of learning included explorations of the roles of parents, peers, and culture at large in learning.

Sociocultural theory. Sociocultural theory grew from Vygotsky's work that stressed the role of culture in shaping learning. To understand how addiction conceptualization occurs, we need to understand how adolescents perceive addiction and the cultural messages to which they are exposed, such as those on social media. These cultural messages, and how they are understood, may be seen on a cultural level. For instance, research has uncovered what is known

as generational forgetting. According to the NIDA (2012b), generational forgetting is a term used to explain how the negative consequences experienced by a particular generation are forgotten by a younger generation. For instance, every ten years or so, American drug preferences swing from stimulants to opiates as the new generation forgets the negative consequences experienced by the generation before. Researchers do not yet know how this cultural phenomenon occurs (Johnston, 2010). However, research of how adolescents understand addiction and the messages they are exposed to on social media may help us understand the impact of sociocultural learning on addiction. Adolescents absorbed in networks are immersed in constructing learning through social interaction, problem-solving, and self-directed actions. This is expressed in the exercising of their ability to judge, learn, and to think systemically (Barron, Gomez, Martin, & Pinkard, 2014). Many teens are seeing and hearing labeling messages, such as that they are *cool* or *nerds*. These cultural messages are eroding their ability to bounce back from life's difficulties (Yeager et al., 2014). To understand how adolescents perceive addiction and the messages to which they are exposed on social media, research examining the role of sociocultural influences on addiction is necessary (Hari, 2015). The focus on sociocultural influence is important for understanding adolescent development holistically.

The idea of approaching education from a holistic angle, considering the learner in the context of psychosocial development, has been researched for nearly 40 years (Hendrick, 1980). However, in recent years this movement has taken on greater focus, being dubbed the Whole School, Whole Community, Whole Child (WCSS) approach to education. The Association developed this approach for Supervision and Curriculum Development (ASCD) and the United States Centers for Disease Control and Prevention (CDC) in 2014 with the aim of improving the learning and health of children and adolescents using a holistic approach ("Whole Child

Education," 2017). Peer social learning is emerging and has been called one of the most

transformative aspects of the internet (Naslund, Aschbrenner, Marsch, & Bartels, 2016; Ziebland

& Wyke, 2012) and could provide new ways to promote well-being (Naslund et al., 2016). Using

social technologies such as Instagram may support various aspects of well-being (Sims, Reed, &

Carr, 2016). Extensive research on social media exists, but research needs to advance to

determine how the traits of the individual, such as their developmental phase of life of

adolescence serve to moderate thoughts, feelings, and behaviors that might lead to addiction (C.

Yang, 2016). Holistic educational and public health interventions that take into consideration

adolescent social learning need to be created to combat the problem of addiction, but there is not

yet sufficient research in this domain. Many people with mental illness experience symptoms

that interfere with socializing in face-to-face encounters (Dickerson, Sommerville, Origoni,

Ringel, & Parente, 2001; Naslund et al., 2016). The holistic Whole Child approach understands

that adolescence is a momentous time of life that provides great perils such as addiction, but also

an opportunity for personal growth through social learning.

Addiction

> Addiction is a developmental disorder—a problem involving timing and learning, more
> similar to autism, attention deficit hyperactivity disorder (ADHD), and dyslexia than it is
> to mumps or cancer. (Maya Szalavitz, Unbroken Brain, p. 3, 2016)

Though there are multiple theories of addiction, the word *addiction* was never a formal

diagnostic term in the American Psychiatric Association's (APA's) medical diagnostic

dictionary, known as the *Diagnostic and Statistical Manual of Mental Disorders* (currently the

DSM-5). However, addiction is a medical condition with documented symptomatological criteria

and impairment and distress experienced by individuals (Angres & Bettinardi-Angres, 2008;

Goodman, 2008; Nestler, 2013; Taylor, Lewis, & Olive, 2013; Volkow, Koob, & McLellan,

2016). The APA categorizes symptoms into four groups: pharmacological criteria such as risky use, social impairment, impaired control, and tolerance and withdrawal (NIDA, 2016e). However, the APA used the terms Substance Abuse and Substance Dependence before 2013. The terms were both relabeled in 2013 with the publication of the updated DSM-5 as Substance Use Disorder and recognized internationally, including by the United States Centers for Disease Control and the WHO (Centers for Disease Control and Prevention [CDC], 2017; "DSM-IV," 2014; WHO, 2017). The only difference between Substance Abuse and Substance Dependence was whether or not the individual thought he or she had a problem. As per the updated DSM-5, addiction is not viewed as a dichotomy between *abuse* and *dependence*, as it was in earlier DSMs, but rather it exists along a continuum. Nomenclature notwithstanding, the NIDA continues to recognize addiction as a medical condition and use addiction to describe compulsive substance seeking in the face of negative consequences (NIDA, 2016b).

Theories of addiction. Likewise, a plethora of scholarly publications continue to use the term addiction. As of the time of this writing, using the keyword addiction on Google Scholar, more than 5,000 scholarly articles have appeared in 2017 alone. Furthermore, the use of the word addiction remains a part of common vernacular. For instance, by tracking posts over the course of a month, the researcher has discovered that nearly 9,000 new posts with hashtags related to addiction are shared each day on Instagram and approximately one every minute on Twitter. Moreover, research has honed in on characteristics of prevention and recovery from addiction ("Home │ psychiatry.org," n.d.). Questions about addiction remain for laypersons and global organizations alike, and theories approach addiction from different perspectives.

Theories of addiction are focused and organized into genetic, metabolic, and conditioning theories. Genetic theories center on what inherited factors predispose or cause someone to be

addicted. Metabolic theories focus on the biological aspects of addiction. Conditioning theories concentrate on the effects of reinforcement on substance use. In other words, addiction is often ontologically viewed in moral, choice, disease, learning and behavior, and sociocultural frames (Snipes, 2012).

Theoretical distinctions can be helpful, but each is not without deficiencies. For instance, while the disease model of addiction allows for medical treatment, it poses problems around the issue of personal responsibility. The changes to the DSM-5 validate the evolution of addiction to a diagnosable disorder supported by the disease model of addiction with physical response to substance use and abuse. This verbiage allows for addiction to be treated like any other disease and thus it qualifies for insurance reimbursement. This model, however, largely neglects the issue of personal choice. The Harm Reduction model stands in contrast to the disease model in that it views addiction as a learned behavior that may be reversed or modified. Under the Harm Reduction model, over-medicalizing leads to a belief in an individual's lack of control as is implied with the disease model, and thus could be an obstacle to reduction or moderation of consumption (Fanton, Azzollini, Ayi, Sio, & Mora, 2013; Satel & Lilienfeld, 2013).

The theoretical conflicts between addiction as a disease and addiction as a choice are evidenced socioculturally. For instance, people—regardless of race, gender, education, or weight status—perceive food and smoking addictions to be more of a choice than alcoholism. They see alcoholism as more of a disease. However, adolescents perceive more of a choice across all addictive conditions (DePierre et al., 2014). The public cannot decide if addiction is a choice or a moral shortcoming and this affects their willingness to support policies and government funding aimed at helping addicts (Barry et al., 2014). For instance, according to the NIDA, we spend more than $484 billion a year on substance misuse because of crime, homelessness, and lost

workplace productivity (NIDA, 2017). That is three times what we spend on cancer (Zhou, Sani, & Luo, 2016). Policy makers have looked to our successful approaches in fighting cancer for help with addiction and found that framing addiction as a disease improves support for substance misuse policy (Hammer et al., 2013; Maté, 2010). Notwithstanding, theoretical conflicts regarding addiction are not helpful when trying to understand how addiction is learned and unlearned (Pickard et al., 2015).

Learning theory of addiction. The learning model of addiction seems to best bridge the gap between the diseases versus conditioning models of addiction. By recognizing addiction as a disease mitigated by learned behavior and impacted by significant biological, sociocultural, contextual, and historical factors, we can better understand the impact of pressures adolescents may encounter, such as stigmatized messages of addiction on social media (Akers, 1985; Best et al., 2016; Engeström et al., 1999; Hyman, 2005). The learning theory of addiction offers evidence that interventions targeting health promotion with the help of learning from both prevention and recovery strategies can be successful through social support. The tendency to focus on addiction as a disease of dependence prevents the recognition that it is the compulsive and dangerous learned behaviors that cause problems for adolescents (American Psychiatric Association [APA], 2013; Szalavitz, 2016, p. 152). By shifting the focus to health promotion within a Sense of Coherence Framework (SOC) as proposed by the WHO, researchers can eschew the reliance on the dualistic disease model that ignores social aspects of addiction. When individuals are viewed as integrated, with somatic (physical), psychic (mental), and social aspects, interventions that can integrate curative and preventative tactics in favor of health promotion can be designed (Antonovsky, 1996).

Research has uncovered adolescent risk factors for addiction and strategies for recovery that can be identified and used to teach adolescent health and well-being (Castellanos-Ryan et al., 2013; Weiss, Westerhof, & Bohlmeijer, 2016). Experts have identified precursors that put adolescents at risk. Those precursors are social shaming and social isolation (Kranke, Floersch, Townsend, & Munson, 2010). Early trials of personality testing have shown we can identify 90% of adolescents at highest risk of addiction. These traits are impulsiveness, anxiety sensitivity, sensation seeking, and hopelessness (Castellanos-Ryan et al., 2013). For instance, there are high rates of co-occurrence between impulse control disorders and addiction (Potenza, 2006). These traits can be mediated socially.

Mediating effects of social learning on addiction. Researchers have known for decades that social norms by way of perceived prevalence of others' drinking predict drinking and that drinking to socially cope predicts problem drinking (Neighbors, Lee, Lewis, Fossos, & Larimer, 2007; Perkins & Berkowitz, 1986). This research has evolved to identify different stages the addicted go through. Social learning impacts each of the stages. These stages are pre-contemplation, contemplation, action, maintenance, and lack of control (Fanton et al., 2013). Social learning impacts each of these stages. For instance, according to Social Learning Theory, goal setting is a cornerstone of self-regulation leading to empowerment (Flavell, 1979; Vygotsky, 1980). Recovery support groups use goal setting and thrive through what are considered Communities of Practice. These communities that include those formed for recovery are an aspect of Social Learning Theory (Lave & Wenger, 1991; Looi, Lim, & Chen, 2008). These communities, some which exist online, provide individuals with social support and empathy.

Social Media

Social media becomes a tool or risk for teen's health based on how they use it. (US Department of Health and Human Services, 2016)

Social media includes many powerful benefits for adolescent social learning. Social media enables empowerment through social learning and support, empathy, greater access, and self-reflection for identity formation. Perhaps the most empowering aspect of social media is access. Individuals with mental illnesses or other health problems engage in self-forming associations, known as peer-to-peer support, for advice, collaboration, access to interventions, or a way to share with others who would understand (Naslund et al., 2016). However, the benefits and risks of social media need to be considered.

Risks inherent to social media include stereotyping, false representations, selfishness, internet addiction, gossip and unkind remarks, privacy concerns, and connections with unhealthy or even dangerous behaviors (Chamley et al., 2013; Reid Chassiakos et al., 2016). For instance, teens who use social media are more likely to abuse substances (The National Center on Addiction and Substance Abuse, n.d.). Too much time spent on social media negatively affects sleep (Bruni et al., 2015). As of 2014, 50% of adolescents reported feeling addicted to their phones. Internet addiction is addressed in the DSM-5 (APA, 2013). A study assessed depression and social media use across multiple social media platforms among a large, nationally representative sample of adolescents and found a positive association between social media use and depression (Sidani et al., 2016) depending on how it is used (Reid Chassiakos et al., 2016).

Another danger is what is known as *sexting*, or sharing sexually suggestive messages over the internet (Corbett, 2009). Adolescents who sext have greater odds of substance abuse and both are significantly associated (Reid Chassiakos et al., 2016). Adolescents have a varied understanding of privacy risks but tend not to use precautions (Boyd & Marwick, 2011).

Adolescent misunderstandings of privacy risks are dangerous because they are impressionable. Interpersonal persuasion can normalize and make risky behaviors seem desirable (Reid Chassiakos et al., 2016). Interpersonal persuasion can be helpful concerning social support, but when false or hurtful messages are exchanged, it can negatively impact adolescents. Still, opinions and faulty thinking from individuals on social media cancel each other out by the law of large numbers, and an average of a vast number of opinions is a more precise estimator (Chamley et al., 2013). However, gossip from individuals on social media can become solidified through consensus gossip, or the broadcast of gossip algorithm that converges almost certainly to a consensus (Aysal, Yildiz, Sarwate, & Scaglione, 2009). The impact of nasty comments from others, and uncertainty due to unclear or false information can pose risks to adolescents (Naslund et al., 2016). Further, people act selfishly on social media by posting nasty comments, for example, because they do not consider the benefit or harm of their private thoughts (Chamley et al., 2013; Dumas, Maxwell-Smith, Davis, & Giulietti, 2017). This selfishness is evidenced in comments that reflect prejudicial thinking. For instance, social media can reinforce gender-role and racial stereotypes (Reid Chassiakos et al., 2016). These adverse risks associated with social media need to be considered in light of the abundance of inherent benefits for social learning afforded through social media.

Individuals with mental illnesses or other health problems engage in self-forming associations, known as peer-to-peer support, for advice, collaboration, access to interventions, or a way to share with others who would understand (Naslund et al., 2016). As they construct knowledge using social media, they engage in peer-to-peer connected learning powered through ubiquitous social connection (S. Yang, 2006). This improved and more engaging form of communication is low pressure and low cost and can improve community participation (Pimmer

et al., 2016; Reid Chassiakos et al., 2016). Social media's focus on people and how they describe themselves can help break stereotypes, and through engagement, individuals can learn about and empathize with marginalized groups (Reid Chassiakos et al., 2016). This engagement can afford a social connection.

Social media can foster social inclusion or connection for those with mental illness. This inclusion can enhance social support and connection when used in moderation (Reid Chassiakos et al., 2016). Individuals with mental health problems can find greater social connectedness and a sense of belonging because they are better able to share coping strategies and personal stories for overcoming challenges, including ways to avoid stigma (Jernigan & Rushman, 2014). Social media may help the socially disconnected with self-expression and connection (Burke et al., 2011). Those with excessive social anxiety may use social media to overcome fears of social interaction (Shepherd & Edelmann, 2005).

Shy people see themselves as better communicators online (Kelly & Keaten, 2007). Social media enhances communication through social support. It is easier to communicate one's true self online (Bargh, McKenna, & Fitzsimons, 2002). A greater sense of control over one's self-presentation may allow for greater feelings of safety in social interactions (Lee & Stapinski, 2012). Another benefit of improved communication of user's self-presentation is that it advances their social capital. A user's visible accomplished learning elevates their social capital (Gibson, Ostashewski, Flintoff, Grant, & Knight, 2015). What fuels learning is the immersive, necessarily socially interactive nature that is intrinsic to social media (Naslund et al., 2016; Pimmer et al., 2016; Reid Chassiakos et al., 2016). This immersive, constructivist nature of social media makes it attractive to users.

Individuals cite various reasons for using social media, but some themes demonstrate its empowering nature. These themes are that it is user-directed, enables decision-making, and allows people to have control over their public life and to sway the opinions of others (Carpenter et al., 2014). Social media has helped create new ways to connect socially which has in turn given researchers valuable opportunities to examine the social dimensions of health (Centola, 2013). Social media platforms like Instagram represent a way to learn what people value and believe and it can be harnessed to influence people. They help us see how individuals make decisions and influence one another; social media represents the link between individuals and social groups (Chamley et al., 2013). Social groups engage in a variety of social media platforms, which demonstrates their power and influence. As of 2014, typical adolescent social media use included multiple social media sites that included Instagram (52%), Google + (33%), Snapchat (41%), Twitter (33%), Vine (24% - no longer updating), Tumblr (14%), and other social media (11%; Reid Chassiakos et al., 2016). This study focused on the social media platform Instagram because of its dominant popularity among young people (Duggan et al., 2015).

The widespread popularity of social media like Instagram, especially among adolescents, combined with the publicly viewable nature of most social exchanges, makes it a desirable source for learning about adolescent identity formation through social learning (Reid Chassiakos et al., 2016). How adolescents perceive concepts like addiction are part of their identity, and that identity is open to change through social learning. However, gaps between offline and online identities are blurring because of the spread of social media (Marwick, 2013) and adolescents are continually shaping their identities (Belk, 2013). The identity of a person and their support network are completely connected and interdependent (Vaux, 1988). These networks are now

observable on and influenced by social media. Social relatedness is one of many components of well-being. Social media is not limited to helping people connect. In fact, it could be used to help them build competence or autonomy. Future research is needed to examine how social media use influences components of well-being such as self-expression (Ahn & Shin, 2013). Adolescents use the internet to explore and express their true selves (Turkle, 2011). We are better able to present our true selves using social media as compared to face to face (Bargh et al., 2002). Therefore, social exchanges viewable on social media can provide sources for learning about adolescent development.

      Instagram. Instagram was the social media platform chosen for this study because it is a uniquely visual form of interactive social media with which the majority of adolescents engage. Visual communication influences us; it affects our self-perception as well as our perceptions of others. According to Strano (2008), photos capture and preserve our past while at the same time they represent one version of reality. Editing and choosing images allows us to depict an idealized version of ourselves as socially acceptable. Adolescents commonly use multiple social networking sites because they offer different features. Literature seems to focus primarily on Facebook. However, Instagram is the most popular photo capturing and sharing application (Hu, Manikonda, & Kambhampati, 2014). Furthermore, much of the content on Instagram is publicly viewable, although Instagram users can determine levels of privacy.

      The default setting of profiles on Instagram is public, viewable by anyone on the app (Hu et al., 2014), but these users can choose settings for privacy. Therefore, researchers can easily view data on Instagram. For instance, they may set their account to private, and thus their content will only be visible to those who have requested to follow them and have been accepted. Users can also choose to only send photos directly to others, as opposed to all of their followers.

Though many of Instagram's affordances are also available on other social media platforms, such as comments, keyword metadata tagging (hashtagging), and image sharing, Instagram, bought by Facebook in 2012 for $1 billion (Hill, 2012), is the fastest growing major social network in the world (Duggan et al., 2015), making it a preference for this study.

According to Instagram, the portable, ubiquitous nature of its application makes it attractive to users. The website explains that its free social networking site is used mostly on phones to capture and share photos and videos with control over who sees shared content. Users share privately or publicly on the application, and also on multiple other social networking sites such as Facebook and Twitter. There are more than 300 million users who share 70 million pictures a day (Instagram, n.d.). Users can find information about topics of interest to them, and thus it may be comparable to Facebook and Twitter and called a social awareness stream (Hu et al., 2014). However, what makes Instagram unique is its focus on the image. Even when other affordances such as tagging are used to enhance the message, the image itself is an integral part of the message.

Most social media platforms are constructivist by nature, but Instagram is perhaps more so. The purpose of Instagram is to take pictures, use filters to modify them (marking them with #s usually) and share them with others (Hochman & Schwartz, 2012). Instagram cultivates the largest number of selfies from users (Poe, 2015) and flawless photos of other users dominate the platform (Feinstein et al., 2013; Krasnova et al., 2013). Photo and video sharing are the key online social currencies (Rainie, Brenner, & Purcell, 2012), perhaps because images impact memory more than words (Zillman & Brosius, 2000). Society today is visually intensive, and anyone can create visual messages easily (Lester, 2013). Photo editing allowed users to move

from *taking pictures* to *making pictures*. This development has turned photos into tools for

identity construction (Chalfen, 2002; Strano, 2008; Van Dijck, 2008).

Instagram lets users reshape their identities as often and frequently as they like. Another

form of a tag is the @ sign, used with a username. This affordance allows users to notify others

of particular posts. They can comment on and share 11 photographs instantly with friends on the

Instagram app itself or through other platforms like Twitter and Facebook (Hochman &

Schwartz, 2012; Hu et al., 2014). With all of Instagram's popularity and relevance among

adolescents, and despite the fact that millions are using it, it is surprising that there is little

research on Instagram as it pertains to social anxiety, or the excessive fear of being watched

closely, judged, and criticized by others during social interaction, such as through stigmatized

messages of addiction (Hu et al., 2014; Kasper, 2014). We need to understand how social media

such as Instagram can help or hinder adolescent well-being as they engage with social support

and identity formation to conceptualize addiction through social learning.

Social Support for Adolescents

> We become fully ourselves only through the ever richening interplay of our networks.
> We seek, more than anything else, to establish deeper and more complete connections.
> (Brooks, p.2, 2012)

Health promotion informed by social learning hinges on social support. The use of social

support through social systems can support well-being by helping adolescents protect themselves

from stress (Camara, Bacigalupe, & Padilla, 2017; Siegel, 2015). Social networks such as those

enabled by Instagram and other social media can serve as mechanisms for social support through

social influence (Marsden & Friedkin, 1993). Networks work at the behavioral level using four

pathways: by providing social support, social influence, social engagement, and lastly, access to

resources (Berkman et al., 2000). Research has found that individuals engage in help-seeking

behavior and social support when they search for health information to give and receive emotional support (Caiata-Zufferey, Abraham, Sommerhalder, & Schulz, 2010). Social networks are the structure of relationships, and social support is the content (Deckop, Cirka, & Andersson, 2003) by allowing for opportunities for useful social interaction (Tsai & Papachristos, 2015). These opportunities could support adolescent development through social learning.

Although adolescence is a dangerous time of life, it is an opportune time to focus on social growth towards wellness, well-being, and mental health. Well-being is a holistic view of life that includes being happy, healthy, and prosperous (CDC, 2016). The World Health Organization (WHO) defines health not just as the absence of disease, but a state of well-being (Antonovsky, 1996). The concept of wellness, derived in 1946 in the United Nations, has been evolving since its inception. At that meeting during the first days as a global body, the United Nations defined wellness as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (Misselbrook, 2014, p. 582). Though the public at large is not yet entirely aware of the importance of wellness since the concept originated, researchers have developed clearer understandings of wellness by identifying its critical threats such as substance abuse. These new understandings have contributed to our growing sense that threats to wellness are dire (Saraceno et al., 2007).

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), the federal agency tasked with improving addiction prevention, treatment, and rehabilitation, there are four major dimensions that support a life in recovery. One of these dimensions is participation in social networks for social support (Chiu et al., 2010; Substance Abuse and Mental Health Services Administration [SAMHSA], n.d.). Stigma and social connection were found in recent quantitative research but still need to be enriched through

qualitative studies (Ahn & Shin, 2013; Błachnio et al., 2016; Lawlor & Kirakowski, 2014/3; Müller et al., 2016). Exploring social connections enabled through social networks such as those enabled by Instagram and other social media could help us understand what keeps adolescents from accessing social support (Singleton et al., 2016).

Leveraging Social Learning to Mediate the Effects of Addiction

> As a place in which one moves toward more-intensive participation, peripherality is an empowering position. (Lave & Wenger, p.35, 1991)

While threats like an addiction that endanger adolescent well-being have been documented, adolescence is nevertheless a ripe time to change and learn from others how to be well. Research has shown that approaches to learning that understand the adolescent as a changing psychosocial being, as opposed to one with fixed personality attributes, are more useful in many ways (Yeager et al., 2014). This research recognizes that after preadolescence an individual usually experiences increasing independence and a variety of changes, including cognitive growth that allows individuals to think more abstractly and socially as they progress towards adulthood (WHO, 2011). For instance, adolescents can begin to develop protective behavioral strategies to reduce the harm of heavy drinking. These strategies serve to moderate impulsive sensation seeking common among adolescents that lead to substance abuse. Protective behavioral strategies are predictors of binge drinking yet they can be learned. One such strategy is alternating non-alcoholic drinks with alcoholic ones to reduce the amount of alcohol consumed in a night Adolescents who learn strategies such as these are less likely to engage in dangerous behaviors that can lead to addiction (LaBrie, Lac, Kenney, & Mirza, 2011). Education is the best method to target adolescents about substance abuse (NIDA, 2016e). However, it is not enough to provide brief, time-limited educational, therapeutic services to serve as stand-alone efforts to help adolescents (Doumas et al., 2017). Rather, new interventions that understand the adolescent

holistically - as social beings who learn socioculturally from others and the world around them - need to be developed (Winters, Botzet, & Fahnhorst, 2011).

Sociocultural messages of addiction such as those that are visible on social media can help or hurt adolescents by either encouraging social support or discouraging social support, which leads to social isolation. Social comparison theory proves that individuals are driven to make clear self-evaluations and judge their abilities and notions by comparing themselves to others to be more certain in their self-evaluations (Festinger, 1954). We show different facets of our identity based on context, and this could skew our self-evaluation (Baym, 2015). On a macro level, broad cultural ideas like racism shape social network structures while on a micro level opportunities for social support and access to resources can help develop health (Berkman, Glass, Brissette, & Seeman, 2000). Incorrect messages of addiction on either a micro or macro level could harm adolescent social comparison and self-evaluation, leading to self-stigma. Self-labeling correlates with self-stigma, depression and a reduced sense of capability (Moses, 2009). These messages, therefore, can interfere with social learning.

Barriers to social learning for well-being. There are impediments to adolescent well-being, such as negative self-concepts brought on by stigma, which could be helped through understanding and awareness. Self-labelers seem to see their illness as part of their identity (Moses, 2009). Addiction has been found to be more blameworthy than other mental illnesses, and this is dangerous because it leads to less helping behaviors and shunning (Corrigan, Kuwabara, & O'Shaughnessy, 2009). The result is that negative messages can result in social isolation and this, in turn, can contribute to unhealthy behaviors such as addiction (Moses, 2009). Entity theory explains that adolescents experience more negative reactions to social adversity like shunning if they are of a fixed mindset (Yeager et al., 2014). Negative reactions may include

fear of social communication. Fear of social communication can lead to communication apprehension and fear due to anticipated social interaction with a socially isolating effect (McCroskey, 1977). Social isolation thwarts social learning and can contribute to addictive disorders. Social learning thrives on social support but messages of stigma and shame can lead to social isolation, and this can lead to addictions (Corrigan, 2004; Folsom et al., 2005; Naslund et al., 2016; Pompili et al., 2008).

Messages of stigma can engender feelings of shame that can lead to social isolation and serve as barriers to help-seeking (Georgakakou-Koutsonikou & Williams, 2017). There are two types of stigma: public and self. Public stigma is how we perceive others' reactions to our illness. Self-stigma is when we internalize public stigma through feelings of shame. Public stigma engenders self-stigma through stereotyping, prejudice, and discrimination that results in individuals avoiding treatment, so they do not suffer from their effects (Corrigan, 2004). Public stigma has multiple causes, but one primary root of public stigma is through public laws. Laws are intended to stigmatize illegal behavior. Because many addictive substances are illegal, addiction becomes a moral issue (Barry et al., 2014).

The public understands how complex addictions are regarding bio-psycho-social causes are concerned, but they see substance-related and behavioral addictions differently. A study comparing attitudes of addiction and mental illness found significantly more negative views of addiction. For instance, study respondents were more often unwilling to have an addicted person marry a family member, and they were more likely to oppose policies aimed at helping addicts. Drug addiction is considered a subcategory of mental illness, with insurance plans grouping them as behavioral health problems (Barry et al., 2014). This can have an impact on who becomes stigmatized, seeks treatment, and initiates behavior changes (Konkolÿ Thege et al., 2015).

Perceiving addiction as more of personal moral responsibility implies bias against those afflicted (DePierre et al., 2014). Moreover, mental illnesses such as addiction evoke more stigma and blame than physical conditions (Corrigan et al., 2009).

Stigma is a badge of shame that contributes to mental illnesses like addiction. With stigma come crippling depression, anxiety, and lethargy (Kessler et al., 2003). Stigma from labels like addiction results in prejudice and can have a disastrous impact on quality of life, ability to take care of oneself and pursue and set personal goals (Corrigan, 1998). Stigma results in feelings of hopelessness and helplessness and puts people at risk of addiction (Corrigan, 2004; Folsom et al., 2005; Naslund et al., 2016; Pompili et al., 2008). The researcher has not been able to find yet studies that examine the link between stress or health and their underlying beliefs, known as implicit theories, which have been shown to give rise to self-blame or shame (Yeager et al., 2014). However, researchers do know that reducing stigma would lead to more people getting help (NIDA, 2012a).

Adolescent feelings of shame may lead to avoidance of treatment and unwillingness to seek help. High levels of self-stigma and shame are associated with negative attitudes towards help-seeking behaviors such as asking for help and participating in counseling (Vogel, Wade, & Hackler, 2007). To be well, one needs to overcome social isolation (De Hert et al., 2011; RachBeisel, Scott, & Dixon, 1999). Research has yet to determine if stigma harms psychological well-being through shame or whether other factors like context are the larger cause. If this study reveals adolescent exposure to stigmatizing messages of addiction on social media, it could help researchers get a clearer sense of how stigma is damaging for adolescents (Kranke et al., 2010; Moses, 2009). Messages of personal power and hope challenge stigma (McGinty et al., 2015). Research shows that increasing public recognition of the treatability of addiction can reduce

stigma and discrimination (Barry et al., 2014; McGinty et al., 2015). By becoming aware of

others like them, they could get a better understanding of health decisions and may encourage

help-seeking behaviors (Naslund et al., 2016). However, if adolescents isolate due to stigmatized

messages caused by unclear understandings of addiction they may avoid help-seeking behaviors.

Varying messages about the definition of addiction to which adolescents are exposed may result

from definitions of addiction that are continually unfolding (Pickard et al., 2015). This lack of

clarity on the definition of addiction could contribute to adolescent misconceptions.

      Adolescent conceptualizations of addiction may evolve through social interactions that

could interfere or reinforce the healthy social support that is needed for them to develop

wellness. Dating back to Emile Durkheim in the late 19th century, social science widely

recognizes that social relationships matter for mental health (Tsai & Papachristos, 2015). Major

functions of social support are to enable extra help to the person dealing with difficulties and

trying to accomplish goals and to make them feel cared for and valued, giving them a sense of

social identity (Vaux, 1988). Adolescence brings the development of a strong infrastructure for

supportive relationships. Adolescents begin to sense that they can see themselves as others

perceive them. We need to be perceived by others as we see ourselves (Bargh et al., 2002).

Adolescents begin to process that awareness and integrate it with their self-concept. So it is

during adolescence that we see how other people influence and shape a person's identity (Vaux,

1988). Social influence is an essential factor for adolescents to be able to embrace healthy

behaviors like help-seeking (Centola, 2013; Pampel, Krueger, & Denney, 2010; Smith &

Christakis, 2008). Contact with supportive others, either with family or peer groups who can

empathize, best evades the effects of stigma. However, some of the strongest impacts on health

that social relationships may have are a result of abuse (Berkman et al., 2000). The result is

feelings of shame that cause adolescents to avoid help and become unwilling to seek help (Vogel et al., 2007).

  Social learning for well-being. Healthy behaviors that promote well-being, such as help-seeking, function through social support. Adolescents use social support to solve problems and make decisions. The well-being of our fellow man tends to be a motivating factor for many to offer social support (Berings, De Fruyt, & Bouwen, 2004). Social life is built upon reciprocity (Deckop et al., 2003). This process of reciprocity empowers both those seeking and offering help. We see this in sobriety support groups. The sober share support because they want to help their others solve their problems (Wasko & Faraj, 2005). Recent research studied how wellness and understanding can occur when youth are active participants in solving problems together. Known as Empowerment Theory, individuals engaged in group problem-solving become more empowered to solve problems (Zhang & Bartol, 2010). Viewing youths as resources assume that young people are capable participants with a right to contribute to the decisions that impact their lives and a responsibility to serve their communities (Finn & Checkoway, 1998). Social networks can help facilitate problem-solving with social support.

  Research has not yet uncovered enough about how Instagram and other social media enable adolescents to engage with social connections and in social networks to garner social support and learn socially (Singleton et al., 2016). However, social media sites like Instagram are designed to connect people (Burke et al., 2011). Further, social media enables users to create profiles and share about themselves with others within their networks (Gentile, Twenge, Freeman, & Campbell, 2012). Research shows that online social networking, enabled by social media, is the dominant form of communication and social interaction for many people (Naslund et al., 2016). Numerous social sharing platforms provide spaces for socialization. Moreover,

users have a number of ways in which they can construct social meaning such as through consuming, producing, and distributing content (Carpenter et al., 2014). Social media refers to the interactive web and mobile platforms through which individuals and communities share, co-create, or exchange information, ideas, photos, or videos within a virtual network. Networked communities share and communicate through virtual networks with information that takes the form of ideas, photos, and videos (Naslund et al., 2016). Nearly three-fourths of those who are online use social networking sites such as Snapchat, Facebook, Twitter, and Instagram (Greenwood, Perrin, & Duggan, 2016). These various platforms offer different affordances of expression and socialization. For instance, Snapchat seems to be more about social bonding than the connecting of social capital (Piwek & Joinson, 2016; Vaterlaus, Barnett, Roche, & Young, 2016). However, unsolicited communication occurs naturally on social media (Naslund et al., 2016). The open, disorganized nature of social media brings with it afore-discussed threats to adolescent well-being, and yet, that same openness affords benefits through social support and social learning. Further, disorganization is generic in all processes of Social Learning. For better and for worse, Social Learning Theory explains that observing others in the decision-making process can influence future actions and social media amplifies the learner's ability to do so (Chamley, Scaglione, & Li, 2013, p. 3).

Chapter Summary

Social Learning Theory provides the framework for understanding the development of adolescent well-being. Adolescents are at risk for social isolation as well as for developing unhealthy practices that can lead to addiction. Social media, specifically Instagram, is a commonly used tool for adolescents and contributes to adolescent identity construction. This exploratory research seeks to understand how adolescents are using social media in framing their

social support relationships and how ideas of addiction will be discussed among the adolescents.

Chapter three presents methods for this proposed study.

Chapter Three: Research Methods

This study explored adolescent perceptions of addiction as expressed in interviews and the messages available on Instagram hashtags related to addiction. This chapter discusses the methods for achieving the purpose of this research. The epistemological perspective underlying the choice of mixed-methods exploratory study is presented. Sources of data are explained as well as specific data collection processes. Methods for analysis and processes to ensure study validity are also provided.

Research Questions

The central guiding research question for this research was:

- How do adolescents who are engaged in social media perceive addiction?

Sub-questions included:

- What specific beliefs of addiction are being expressed with hashtags related to addiction on Instagram?

- How do these beliefs situate with the scientific literature on addiction?

- How do adolescents explain the role of social media in their understanding of addiction?

- How do the adolescent perceptions of addiction gathered through interviews align with the expressed views on Instagram?

Research Design

This study, grounded in Social Learning Theory (Vygotsky, 1980), used concurrent exploratory mixed-methods. The central guiding research question points squarely to the choice of mixed-methods research as the best methodological fit for research involving conceptual domains falling within an intermediate maturity arena (Edmondson & Mcmanus, 2007).

Quantitative content analysis of Instagram posts was triangulated with data from qualitative interviews (Creswell, 2013). Content analysis is an unobtrusive research technique for making valid inferences from the text - inferences that are replicable and meaningful to the context of their use (Krippendorff, 2004). Interviews are one of any number of qualitative approaches that lead to discovery from the human perspective (Creswell, 2013; Duffy & Chenail, 2009; Gray, 2013; Kuckartz, 2014).

This study integrated multiple sources of data in an attempt to explore representations of addiction on social media to better understand the development of adolescent well-being as it pertains to addiction. The mixed-methods exploratory approach was appropriate because researchers have not yet uncovered how adolescents perceive addiction and how addiction is represented on social media. Future interventions that support adolescent wellness need to integrate current research from multiple sources of data.

Mixed-methods research to explore a phenomenon must have meaning for the researcher as well as the academic body of knowledge. Because mixed-methods research uses multiple methods for data collection that includes qualitative data, it is important to understand the researcher's experiences with addiction and adolescent development as they pertain to this research (Creswell, 2013; van den Akker, 1999). The researcher in this study has been heavily involved with adolescents as an educator and in addiction recovery groups, serving as mentor, mentee, organizer, and information disseminator. The researcher currently serves as a high school social studies teacher and SADD club advisor. These roles equip the researcher with a capacity to understand adolescent learning and addiction, and a capability to separate the meaningless from the meaningful to give meaning to data that is collected (Corbin & Strauss,

2008). This study has helped the researcher better understand her practices as a teacher, mentor, and advisor of adolescents.

The choice of concurrent mixed-methods exploratory design was born from a specific group of theoretical and epistemological mindsets that bear some discussion. There are core assumptions that come from combining qualitative and quantitative approaches. These assumptions provide a more comprehensive understanding of the research problem posed than either approach could do alone. Content analysis of Instagram hashtags related to addiction requires a pragmatic worldview. Instead of focusing on a polarity of constructivism versus objectivism, pragmatic mixed-methods research allowed this study to explore other possibilities (McLafferty, Slate, & Onwuegbuzie, 2010).

Phases and Sources of Data

An exploratory mixed-methods design involved two phases occurring concurrently using multiple modes of data collection and more than one instrument to enrich the information gathered (Kuckartz, 2014). Phase 1 involved the capture and content analysis of a stratified sample of Instagram hashtags related to addiction posts. The second phase involved interviews with a small sample of adolescents who were actively engaged in an organization focused on educating and supporting adolescents regarding addictive behaviors. The adolescents also had self-reported experience with social media, specifically Instagram. The specific methods for data collection and analysis for each phase are explained below.

Phase 1

A stratified sample of four Instagram hashtags related to addiction were selected as the source for social media posts, based on the fact that since its release in the fall of 2010, this social media platform with publicly viewable posts is rapidly becoming the most popular social

media platform among adolescents (Reid Chassiakos et al., 2016; Duggan et al., 2015). The

hashtags chosen were #addiction, #recovery, #drugs, and #alcohol. As of July 19, 2017, there

were 3,824,877 #addiction posts, 6,625,144 #recovery posts, 7,746,124 #drugs posts, and

2,226,541 #alcohol posts on Instagram. These Instagram posts related to addiction comprised the

targeted population, which approximated 20,422,686 million. A stratified sample of 180 posts

with hashtags related to addiction time-stamped between April 2017 and August 2017 organized

into nine *top posts* and collected on five days during peak times of 5:00 to 9:00 pm EST (Lim,

Lu, Chen, & Kan, 2015).

An Instagram algorithm sort's top posts by taking into account both speed of interacting

and an engagement ratio. The engagement ratio is the number of followers a user has compared

to the percentage of interactions generated by a user. Time is also a part of Instagram's algorithm

for deciding top posts. Accounts that have their audiences interacting with their posts very

rapidly tend to be favored in the top posts. Deconstructing Instagram's algorithm is beyond the

scope of this study. However, when users search hashtags related to addiction on Instagram, they

are driven to the 9 top posts for each. These posts are images with varying characteristics and

comments that were organized into themes using Evernote, a web-clipping digital storage tool.

Content analysis. Content analysis was used to analyze the content of messages

considering concepts of addiction. The goal of this content analysis was to quantify content into

predetermined categories in a systematic and replicable way for making meaning of the

characteristics and content of the messages. Categories were operationalized through the creation

of themes and codes (Carpenter et al., 2014). An initial codebook was created based on addiction

literature, and initially included five categories: social support, wellness, conceptions of

addiction, negative social comparison, and unhealthy behaviors (see Table 1). HyperResearch, a

qualitative analysis software, was used to document the coding process and support the

interpretation of the Instagram posts. The initial categories allowed for additional codes and

themes to be identified by the researcher throughout the iterative process. Two peer reviewers

participated with the researcher to ensure reliable interpretation. For each of the five categories,

numerous themes emerged.

Table 1

Content Analysis Thematic Categories

Social Support	Wellness	Conceptions of Addiction	Negative Social Comparison	Unhealthy Behaviors
Addiction experience	Abstinence	Addictive compulsions	Advertising	Denial
Advice	Fitness	Addictive	Glorified other	Glamorizing/
Confession	Goals	substances	Negative humor	Normalizing
Help-seeking	Growth/change	Choice	Risk behaviors	Stigma
Identification	Healthy activities	Confusion	Social isolation	Using to cope
Inspirational	Healthy coping	Cravings		
messages	Healthy substances	Objectification		
Lifestyle	Prevention	Suggestive		
promotion	Recovery	Dichotomous		
Positive		thinking		
humor				
Sharing				
Social				
influence				
Supportive				

The categories of *Negative Social Comparison, Conceptions of Addiction,* and *Unhealthy*

Behaviors include posts that may lead to stigma by way of minimizing or misconstruing the

problem of addiction. Stigma leads to social isolation and thus makes the problem of addiction

worse. Isolation cuts two ways. Individuals who are isolated keep their distance from those who

might offer social support, and those who isolate from the addicted are more likely to approve of

medical policies that are discriminatory (Zhou et al., 2016). The categories of wellness and social support include posts that may lead to peer help that is integral to wellbeing. Social support can impact the behavior of adolescents and help them avoid addiction through peer-to-peer connection (Kiesler & Sproull, 1992; Naslund et al., 2016; Vaux, 1988; S. Yang, 2006).

Phase 2

The researcher solicited 11 volunteers from a SADD chapter in a regional, suburban southern New Jersey high school. Volunteers were those who are not supervised or assessed (or have the potential to be supervised or assessed) by the researcher. Adolescent members of SADD agree to adhere to the organization mission to use peer-to-peer learning to confront the challenges and risks they face. The primary focus of SADD activities includes social inclusion and substance abuse awareness. The researcher's choice to select subjects from a SADD club, who also use the social media platform Instagram, was born from the desire to gain insights from adolescents of varying ages and backgrounds and who share a common goal to avoid adolescent destructive decision-making (van den Akker, 1999). Adolescents self-selected into the club. The volunteer subjects self-reported using Instagram and were between the ages of 16-18.

  Interview process. The interviewer asked several questions to determine adolescent beliefs about addiction. The first questions sought to obtain demographic information. Those were followed by 18 questions from the Addiction Belief Scale (ABS, Appendix A), a clinical research tool created in 1995 (Schaler, 1995) and tested for validity since its creation in 1995 (DePierre et al., 2014; Schaler, 1995). Follow-up questions were asked to facilitate further qualitative explanations. The interview protocol was pilot tested with one adolescent. Interview questions (Appendix B) included open-ended questions that could not be ascertained with the objective ABS survey alone (Appendix A; Schaler, 1995). Since little is known about how

adolescents perceive addiction in light of social media, these more open-ended questions allowed data to be collected that provided richness to the researcher's understanding of the phenomenon (Creswell, 2013; Edmondson & Mcmanus, 2007). With SADD adolescents as the unit of analysis, the researcher used empirical data from interviews to give variety to her "thick descriptions" (Creswell, 2013, p. 171) of the phenomenology. Those who agreed to join the study completed informed consent documentation. The form explained the purpose and parameters of the study, as well as participant rights and risks. The interview instrument (Appendix B) included multiple modes to produce responses, beginning with standard demographics questions and moving to more open-ended questions. Addiction belief interview questions were taken from the ABS (Appendix A; DePierre et al., 2014; Schaler, 1995). The interview transcripts underwent two cycles of coding (Saldana, 2015).

Participants were contacted via email and asked to participate. To retain reliability through the interview process, the researcher used a standard interview instrument and platform: a phone interview, conducted and recorded with a free online conference calling tool, https://www.freeconferencecall.com/ (Gray, 2013). All audio recording data obtained from interviews was stored, recorded, and managed on secure and reliable platforms. Interview recordings and transcriptions were stored in an encrypted folder.

Phase 2 analysis. The ABS scale measuring the extent to which adolescents perceived addiction as a problem of free-will, or a disease, was analyzed. The 18 open-ended items included with the ABS were transcribed and subjected to a thematic analysis process along with the transcribed interviews. The thematic analysis process involved initial coding using the codebook developed for the content analysis of Instagram posts following Guest and colleagues'

(2012) illustration found in Creswell (2013). The same initial categories of codes were used, however additional emergent codes were added.

Triangulation of Findings

Phase 1 data generated from Instagram underwent a content analysis process separate from the thematic analysis conducted on the interview process using the Hypertranscribe software. Both sets of data were considered and triangulated to form study conclusions.

Human Subjects Considerations

This study involved data gathered in two phases, the first which represented nonhuman-subject data, as the social media posts were not gathered with any identifying data. The interviews involved adolescents aged 16-18 from a school setting. Both youth assent and guardian consent were required. The focus of the interviews involved the sensitive topic of addiction, which had the potential to create anxiety for some adolescents. Questions were designed and were asked in a way that would only pose minimal risk. For instance, the choice of using phone interviews was to reduce the risk of anxiety incurred in a face-to-face setting. Adolescents were able to take part in the interview in a location where they felt safe. Further, the researcher reassured interviewees that their identity would not be divulged and they could stop the interview at any time if they felt uncomfortable. If they began to demonstrate anxiety, the researcher planned to stop the interview and refer them to a counselor. Parental concerns could have arisen, and as a preventative measure, the researcher explained the study and steps taken to mitigate risk. If parents verbally assented, the researcher obtained, and recorded, a Youth Assent and Guardian Notification form for children aged 7-17 in the school setting. Using an alphanumeric code and a pseudonym to be used on their interview transcripts protected each interview participant's identity. The log of the codes was not stored in the same location as the

data. As such, if the data were to become compromised, there would be no personally identifiable information to connect with the interview subjects. Study findings refer to participants only by their pseudonyms.

The proposed research was submitted to the Pepperdine University GPS-IRB for review in April 2017. Approval from the IRB was received before subject interviews (Appendix C).

Means to Ensure Study Validity

This study used measures consistent with scientific literature to ensure validity and reliability of data gathering instruments. Three content experts validated the interview protocol. One of the experts has achieved her Ed.D., one is a doctoral candidate in learning technologies, and the fourth is a primary therapist specializing in addiction.

The thematic analysis process of the interview transcripts followed a similar process as used for the content analysis of Instagram posts. The same codebook was used for both sets of data. Further, a process involving multiple coding iterations and two separate peer reviews occurred. The mixing of data findings enabled triangulation and supported study validity.

The content analysis process of Instagram hashtags related to addiction data was rigorous, involving multiple coding iterations as well as peer reviews to ensure a reliable interpretation process. To ensure validity and reliability of the interview process in Phase 2, the interview protocol was validated by three content experts and piloted with an adolescent. Interviews were conducted within a one-week time frame to lessen the threat of history or maturation of the subjects. Further, the researcher built rapport and trust to encourage subjects to expand on their responses (Arksey & Knight, 1999).

Chapter Summary

This mixed-methods exploratory study design was consistent with both the bracketed experiences of the researcher and a social constructivist worldview. The study employed multiple modes of data gathering and analysis to best capture different aspects of adolescents' perceptions of addiction. Chapter four presents the findings of the study and Chapter five includes study conclusions, discussion of implications, and suggestions for future research.

Chapter Four: Results

This chapter describes the results of this study of adolescent perceptions of addiction and the messages of addiction adolescents are exposed to on Instagram. Two sources of data provided information about how adolescents perceive addiction. First, an explanation of the hashtags related to addiction found on Instagram data collection is explained. Second are the ABS findings. Next is a description of study participant characteristics and findings with analysis, followed by an interpretation of integrated findings. The chapter includes the answers to research questions restated using images of Instagram posts and participants' own words. The chapter concludes with a summary of the themes that emerged from the findings.

Restatement of the Research Questions

The central guiding research question for this research was:

- How do adolescents who are engaged in social media perceive addiction?

Sub-questions include:

- What specific beliefs of addiction are being expressed with hashtags related to addiction on Instagram?

- How do these beliefs situate with the scientific literature on addiction?

- How do adolescents explain the role of social media in their understanding of addiction?

- How do the adolescent perceptions of addiction gathered through interviews align with the expressed views on Instagram?

Participant Characteristics

Ten volunteers from a SADD chapter in a regional suburban southern New Jersey high school comprised the small sample of adolescents who were interviewed for this study. These

adolescents were actively engaged in an organization focused on educating and supporting

adolescents regarding addictive behaviors. The adolescents also self-reported their experience

with social media, specifically Instagram. Volunteers were those who are not supervised or

assessed (or potentially supervised or assessed) by the researcher. SADD club members agree to

adhere to use peer-to-peer learning to confront the challenges and risks they face, as stated in the

SADD organization mission. The primary focus of SADD activities includes those to promote

substance abuse awareness and social inclusion. These SADD club members who also use

Instagram were chosen because of their varying ages and backgrounds and because they share a

common goal to avoid adolescent destructive decision making (van den Akker, 1999). These

voluntary adolescent subjects self-selected into the SADD club, use Instagram, and were

between the ages of 16 and18. There were eight female and two male subjects. Two subjects, one

male, one female, were 18 years old. Two subjects were 16 and four were 17. Subjects had all

successfully completed their 2017 coursework and at the time of the interview had leveled up to

the succeeding grade of high school or had graduated high school. The two who graduated have

plans for their continuing education. One subject is the SADD club president. Another subject is

a class officer and student council member. All of the subjects generally reported the desire to

improve society, with SADD membership being a component of that desire.

Hashtag Findings

Data of Instagram posts related to addiction that were hashtagged #addiction, #recovery,

#alcohol, and #drugs was collected and analyzed. Data was collected on four dates that included

May 13 2017, June 5 2017, June 8 2017, June 20 2017, and July.19 2017. The total number of

posts that were hashtagged #addiction, #recovery, #alcohol, and #drugs was 819,155. The top

nine posts were collected for each hashtag, on each of the five data collection days. The total

number of collected posts that included comments was 180. From this 180, the data was organized into four major themes that included conceptions of addiction, unhealthy behaviors, social learning, and wellness. What follows is a closer examination of the results of this hashtag data analysis, organized by those four themes. Table 2, below, illustrates the data collection and sample.

Table 2

Total Addiction Related Posts, Hashtagged on Data Collection Dates

	May 13	June 5	June 8	June 20	July 19	Total posts from May 13-July 19	Avg. per day over 67 days
#addiction	3,681,810	3,731,339	3,737,877	3,762,095	3,824,877	143,067	2
#recovery	6,250,027	6,375,798	6,394,156	6,457,534	6,625,144	375,117	6
#alcohol	7,497,456	7,581,246	7,590,510	7,637,391	7,746,124	248,668	4
#drugs	2,174,238	2,202,748	2,207,494	2,223,405	2,226,541	52,303	1

Posts were collected on four separate dates over a roughly 2-month time. Figure 1 visually demonstrates this data, broken down by hashtag. Table 3 lists the four themes and their associated codes. The four themes emerged during the first round of coding.

Addictive substances. Messages related to addiction that were hashtagged with #addiction, #recovery, #drugs, or #alcohol contained addictive substances, most often marijuana and alcohol, and were referenced 110 times in the analyzed data. Addictive substances are those that have been documented to be addictive for some. Examples include caffeinated drinks, alcohol, cocaine, marijuana, LSD, methamphetamine, or foods with sugar and flour as primary ingredients. Examples also include both illegal and legal drugs shown or referenced with or without words or hashtags, such as marijuana, weed, pot, hash, LSD, drugs, oxy, and Percocet.

References also include images or words with or without hashtags such as alcohol, booze,

drinking, drunk, any alcohol such as vodka, wine, beer, mixed drinks, a bar, or red solo cups.

The image below typifies posts of addictive substances with hashtags related to addiction.

Figures 3, 4, and 5 containing addictive substances (caffeine, pharmaceutical medications,

marijuana, and hashish) were hashtagged #addiction.
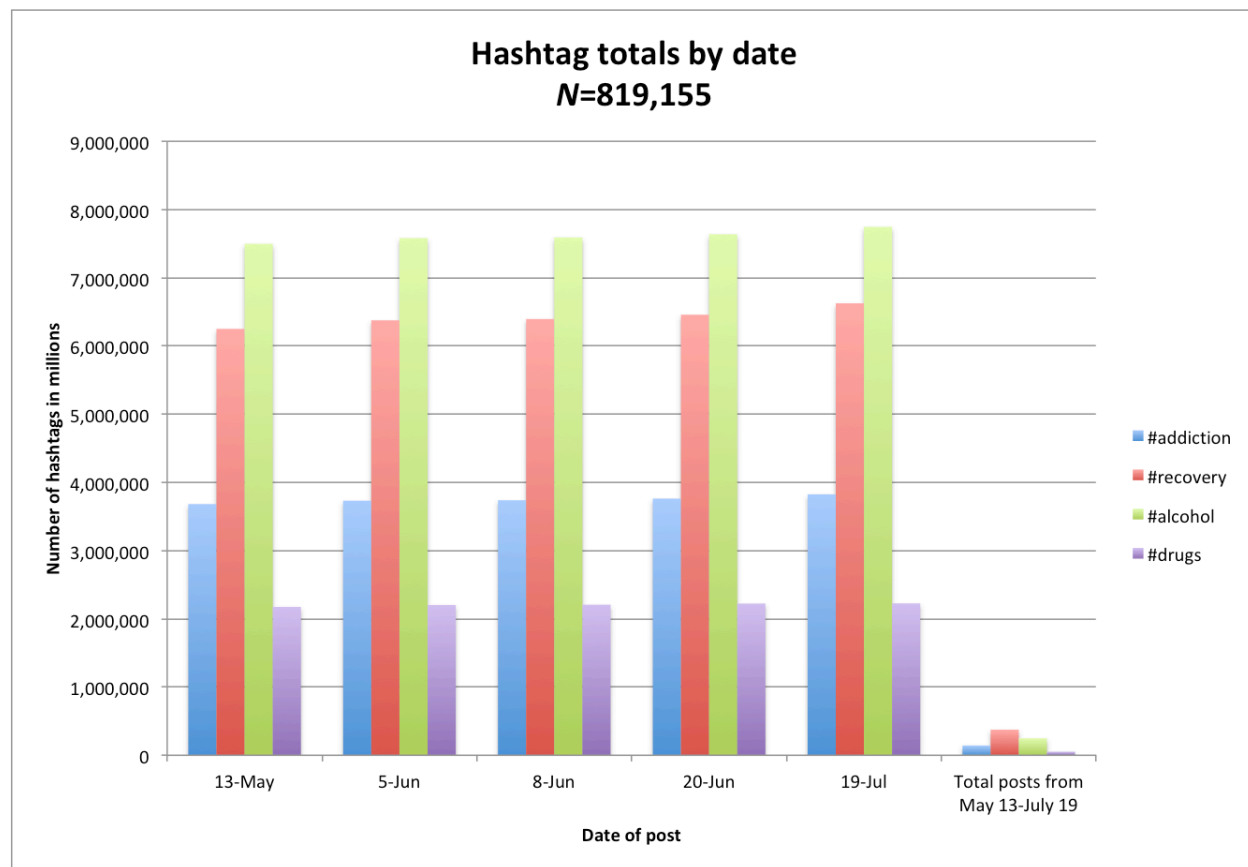
Figure 1. Number of hashtags. This figure illustrates the number of hashtags posted for each chosen addiction-related words by each of the four data collection dates. The dates were May 13, 2017, June 5, 2017, June 8, 2017, June 20, 2017, and July19, 2017.

Table 3

Content Analysis Thematic Categories

Conceptions of Addiction	Unhealthy Behaviors	Social Learning	Wellness
Addictive compulsions	Denial	Addiction experience	Abstinence
Addictive substances	Glamorizing/	Advice	Fitness
Choice	Normalizing	Confession	Goals
Confusion	Negative humor	Help-seeking	Growth/change
Cravings	Risk behaviors	Identification	Healthy Activities
Dichotomous Thinking	Social isolation	Inspirational	Healthy Coping
Disease	Stigma	messages	Healthy substances
Environment	Using to cope	Lifestyle	Prevention
Learning model	Negative Social	Promotion	Recovery
Progression	Comparison	Positive humor	
Recognition of the	Advertising	Sharing	
problem	Glorified other	Social influence	
Temperament	Objectification	Supportive	
	Suggestive	Testimony	

Codes in the theme of conceptions of addiction visualized below, were coded as such if they related to addiction. The code of addictive substances accounted for 40% of codes in this theme. The code of recognition of the problem accounted for 11% of the codes in this theme.
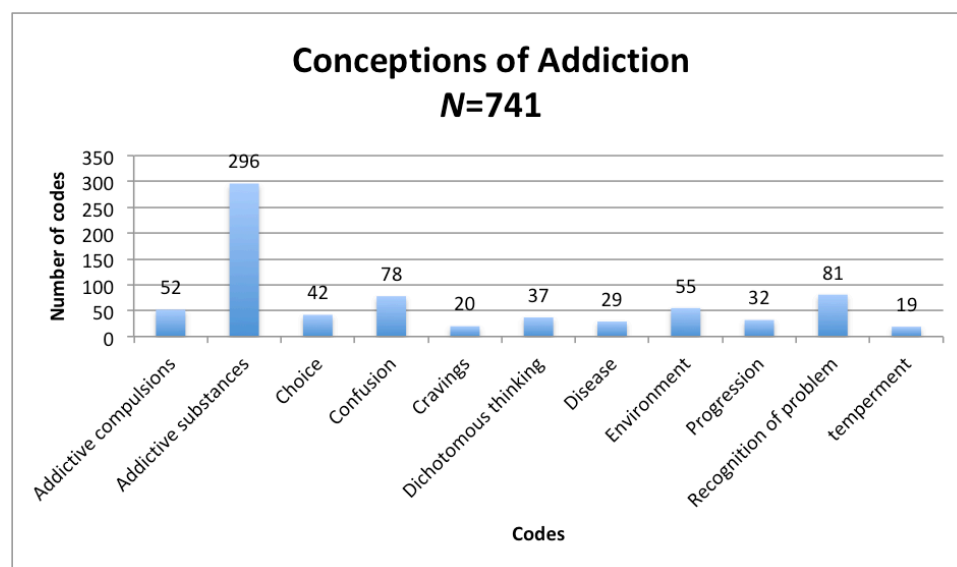
Figure 2. Conceptions of addiction on Instagram. This figure illustrates the number of references in coded Instagram content that relate to conceptions of addiction.

Figure 3. Instagram post of cappuccino. Hashtagged #addiction, coded addictive substance. From "@marcklok", July 19, 2017 (https://www.instagram.com/marcklok/?hl=en). In the public domain.

Figure 4. Instagram post of artwork depticting drug overdose. Hashtagged #addiction, coded addictive substance. From "@hifructosemag", June 5, 2017 (https://www.instagram.com/hifructosemag/?hl=en). In the public domain.

Figure 5. Instagram post of Marijuana and Hashish. Hashtagged #addiction, coded addictive substance. From "@staytoastedd", May 13, 2017. (https://www.instagram.com/staytoastedd). In the public domain.

Addictive compulsions. The code of addictive compulsions emerged within the theme of conceptions of addiction and appeared 27 times in the Instagram data. Addictive compulsions are actions that do not include substances but have been documented to be addictive for some. These actions include excessive social media use, bulimia, fasting, and self-mutilation. Internet addiction, or social media addiction, is characterized in the DSM-5 as Internet Addiction Disorder (IAD) and includes the reoccupation with the Internet and media. Compulsions include the inability to control use. Examples of data coded as addictive compulsions include hashtagged photos with #internetaddiction #socialmediaaddiction or references to an inability to avoid social media. Examples may also include the hashtag #foodaddiction #compulsiveeating #foodaddict and images such as a person eating large quantities of food or before and after photos of them overcoming their addictive compulsion that demonstrates an improvement in physical appearance. The compulsions of binge eating, bulimia, or anorexia were referenced most often, with Figure 6 typifying these posts. In the comments accompanying this post, the addictive compulsion is labeled as an eating disorder.

Figure 6. Instagram post of recovering Anorexic. Hashtagged #addiction and #recovery, coded addictive compulsion. From "@healthycaits", July 19, 2017. (https://www.instagram.com/healthycaits/). In the public domain.

Recognition of the problem. Within the theme of conceptions of addiction was the code of recognition of the problem. This code refers to an understanding that an addict or a loved one often comes to: that their addiction is a problem. This code included references to the steps individuals or institutions take to prevent addiction. While there are markers for addictions, this process is often subjective, as is demonstrated below in an example of some Instagram posts related to addiction that discuss the recognition of the problem of addiction. The comments from this post demonstrate the conversations found on many Instagram posts, about how to recognize addictive or compulsive behaviors. This comment accompanied a before-and-after image of a young woman, ostensibly recovering from anorexia.

> We become unable to see when someone's weight is too low or their behavior is problematic because everyone around us is so similar that it has become the norm. - People with eating disorders become able to look at other people with eating disorders and think "well she's not THAT thin" even when the person in question has a BMI of below 17. My sister is considered thin by everyone around her in the wider world but in dance college she is one of the big ones. And yet she's not too big to be signed to a modeling agency.

Posts coded with content related to conceptions of addiction often share codes with the theme of unhealthy behaviors, described subsequently.

       Choice. The code of choice emerged from within the theme of conceptions of addiction several times. Coded images and words refer to the role of choice as it pertains to addiction. These references include the words choice, option, alternative, and decision. The comments accompanying the image below (Figure 7), hashtagged #recovery, explain the choice @fitfenji made to share an image despite insecurities, ostensibly body image insecurities since she references "with or without the extra weight" later in her comments.

Figure 7. Instagram post of vacation portrait. Hashtagged #recovery, coded choice. From "@fitfenji", July 19, 2017. (https://www.instagram.com/fitfenji/). In the public domain.

       Confusion. There were several messages that communicated confusion about conceptions of addiction. Data with this code shows either a lack of understanding of the subject referenced, or mixed feelings that may contradict each other. This message exemplifies this confusion. This comment accompanied a post, hashtagged #drugs, referenced a son calling the

police on his father for selling drugs out of his home. "I'm confused…Maybe son was tired of addicts coming to he house or police at his door….Or MAYBE just MAYBE he wanted a better life for his family…Dad chose his. Get our priorities right!"

Cravings. The code of cravings emerged within the theme of conceptions of addiction. Cravings are a distinctive component of addiction. Examples included references to cravings, withdrawal, or wanting more even though there have been negative consequences and wanting more than other people. This code typically accompanied posts such as the one below that described medically assisted treatment of addiction to reduce cravings (Figure 8).

Figure 8. Instagram self care post. Hashtagged #recovery, coded craving. From "@selflovliv", 2017 (https://www.instagram.com/selfloveliv/?hl=en). In the public domain.

Other posts that were coded craving often spoke of withdrawal symptoms, such as this quote: "I can get horrid withdrawal symptoms if I don't take my suboxone [about a medically assisted treatment for heroin addiction]." The code of craving was often accompanied by the code of *disease*.

Disease. The code of disease emerged within the theme of conceptions of addiction several times. This code referenced the word or concept of disease, a medical condition, or a physical reaction as in like an allergy, with signs and symptoms such as withdrawal, shakes,

seizures, or persistence of behavior in light of negative consequences. This quote, accompanied

by a selfie and hashtagged #recovery exemplified the use of the code disease.

> aylor_munholland I had no idea you had a chronic terminal illness. You are so fucking strong. And we are human before anything else and not to be judged for what we can't control with our health. We want lives away from our diseases and we hell don't want to be defined by them. You are inspiring. So much love to you

This quote hashtagged #addiction and accompanying an image of a human heart on a

surgical pan next to an operating table was also coded disease.

> This is a cardiomyopathic heart with an ejection fraction of only 10%. Cardiomyopathy is a group of diseases that affect the heart muscle. Causes include coronary artery disease, hypertension, heart valve disease and chronic abuse of certain drugs (e.g. cocaine).

Unhealthy behaviors. Analysis of Instagram posts related to addiction unearthed the

theme of unhealthy behaviors. Unhealthy behaviors are those that may lead to and/or exacerbate

addiction. The codes that emerged within this theme include the codes of advertising,

glamorizing/normalizing, glorified other, negative humor, objectification, risk behaviors, and

suggestive (Figure 9). The codes used most frequently in this theme were stigma and advertising,

both with 16% of the codes, respectively. Risk behaviors was the third most frequently applied

code, with 12%. The code of negative humor received 11% and objectification 9% of the codes

in this theme.
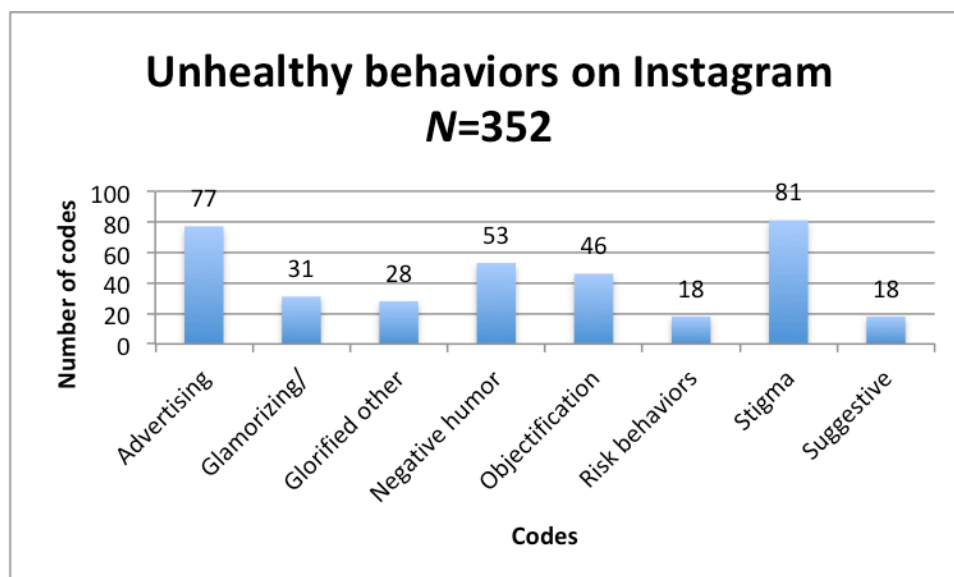
Figure 9. Unhealthy behaviors on Instagram. This figure illustrates the number of references in coded Instagram content that related to unhealthy behaviors.

Advertising. Within the theme of unhealthy behaviors, the code of advertising was used with high frequency. Advertising may lead to objectification, negative social comparison, or the minimization of potential harm caused by the meta-data tag (hashtag) to which it is attached. Examples may include shoes, alcohol, sunglasses, or another account (such as a fan account).

Advertising appeared 77 times in the data, most often accompanied by the hashtag #addiction and typically in the form of comments on shared photos of make-up or clothing models. This image (Figure 10) is a typical post that garnered the code advertising.

Figure 10. Instagram post of woman on cell phone. Hashtagged #addiction, coded advertising. From "@nehamalik335", June 8, 2017. (https://www.instagram.com/nehamalik335/). In the public domain.

The coded comments give viewers instructions on how to find the clothes seen on the

image above.

> Girls now u can grab my outfits n all girly stuff on heavy discounted rate only on #spoylapp Download the @spoylapp now n start #shopping   My user name is Nmalik4925 or u can Search me by my name Neha Malik

Glamorizing/normalizing. Within the theme of unhealthy behaviors, the code of

glamorizing/normalizing was used 31 times in the data, most often accompanied with the hashtag

#alcohol. Glamorizing or normalizing content attempts to make, or makes, addictive behaviors

appear to be attractive or normal. Content with this code may include attractive individuals

smiling and drinking, or an enticing photo of alcohol or drug consumption. This image (Figure

11) with comments demonstrates the code of glamorizing/normalizing. The use of the word

elegant when describing drinking during various times of the year glamorizes and normalizes

drinking alcohol.

Figure 11. Instagram post of coctails. Hashtagged #alcohol, coded glamorizing/normalizing. Text reads: This Rhubarb 75, a simple, seasonal twist on the classic French 75, will quickly become your favorite (and most elegant) way to day drink. I'm loving it for the influx of daytime parties that comes along with spring (Easter, Mother's Day, bridal showers, brunches). From "@jetchillsystems", May 13, 2017. (https://www.instagram.com/jetchillsystems/). In the public domain.

Glorified other. Within the theme of unhealthy behaviors, the code of glorified other

emerged. Messages of a glorified other may lead to negative social comparison, objectification,

or minimization of potential harm caused by meta-data tag (hashtag) to which it is attached. Data

with this code included known substance abusers, and reality show stars like Kim Kardashian.

This code was used 28 times and most often accompanied with the hashtags #drugs and/or

#alcohol. All posts contain multiple hashtags in the comments section. Many of the posts

included in data collection for this study included the chosen hashtags together. For instance, the

images below were both hashtagged #drugs as well as #alcohol. These images (Figure 12)

demonstrate the theme of glorified other because they are both known celebrities—Al Pacino

and Marylyn Manson—drinking alcohol. The photo on the left is from a scene in the movie

Godfather and the captioned text may be found on Urban Dictionary, defined as a sexual act.

Urban Dictionary is an online crowd-sourced dictionary of slang words and phrases ("Urban

Dictionary," 2011).
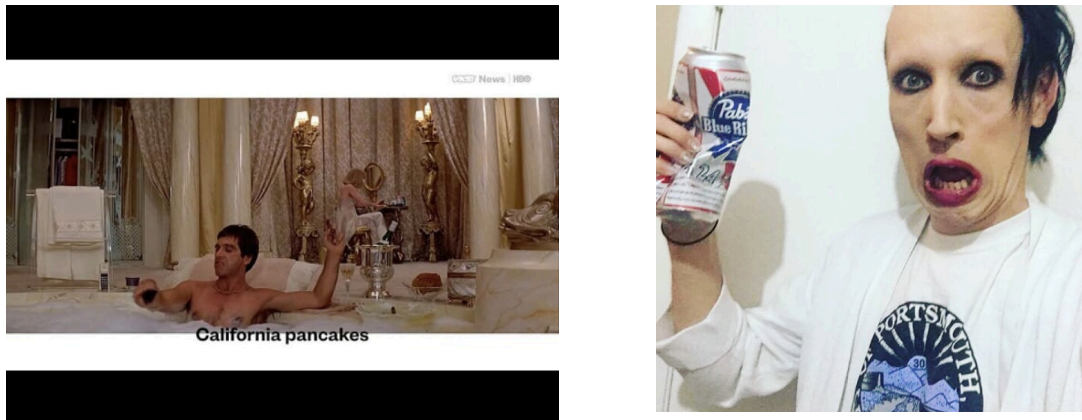
Figure 12. Instagram posts of depictions of notable figures. Hashtagged #alcohol, coded
glorified other. From "@vicenews" and "@robert.bang" respectively, June 8, 2017.
(https://www.instagram.com/vicenews/ and https://www.instagram.com/robert.bang/. In the
public domain.

***Negative humor*.** Within the theme of unhealthy behaviors, the code of negative humor

emerged. This code was used 53 times and accompanied with all of the hashtags in this study but

most often the hashtag #drugs or #alcohol, or both. This image (Figure 13) was coded because it

is attempting humor at the expense of the appearance of the subject in the photo.

Figure 13. Instagram post of woman drinking. Hashtagged #alcohol, coded negative humor. From "@thehotmeme", July 19, 2017. (https://www.instagram.com/thehotmeme/). In the public domain.

   Objectification. Within the theme of unhealthy behaviors, the code of objectification

emerged. Objectification may lead to negative social comparison and minimization of the action

word to which it is meta-tagged (hashtagged). Data coded objectification includes movie scenes

and idealized or unrealistic body images, as well as elite hairstyles. It also includes products that

alter a person's physical appearance, such as lipstick and eyeliner. This code was used 46 times

and accompanied with all of the hashtags but most often with the hashtag #drugs. Visible in the

background of the image below (Figure 14) is prescription cough syrup that contains the opiate

codeine. Comments on the image also reference "codeine dream" and "knock me out baby."

Figure 14. Instagram post of a female selfie in the mirror. Hashtagged #drugs, coded objectification. From "@j_normandia", July 19, 2017. (https://www.instagram.com/j_normandia/). In the public domain.

Risk behaviors. The code of risk behaviors emerged within the theme of unhealthy behaviors. Risk behaviors are actions or hobbies that can lead to substance use and/or abuse, addiction, and dangerous behaviors. Examples of data coded risk behaviors are anonymous sexual activities, guzzling alcoholic beverages, underage drinking, illegal substance use, and beer pong. Data coded risk behaviors included teen alcohol consumption, marijuana consumption, and illegal substance seeking like, "Do you know where to score some weed?" This code was used 18 times and accompanied most often with the hashtag #drugs. This image (Figure 15), referencing unprotected sex, exemplifies the Instagram posts coded as risk behaviors.

Figure 15. Instagram post of man sitting outdoors. Hashtagged #drugs, coded risk behaviors. From "@hoegivesnofucks", July 19, 2017. (https://www.instagram.com/hoegivesnofucks/). In the public domain.

Suggestive. Within the theme of unhealthy behaviors, the code of suggestive emerged. This code included individuals posed in a manner to suggest sexual activities and was often used to market products. This code was used 18 times and accompanied most often the hashtag #drugs. The words on this image (Figure 16) are suggestive of oral sex.

Figure 16. Instagram post of job interview, captioned. Hashtagged #drugs, coded suggestive. From "@masipopal", May 13, 2017. (https://www.instagram.com/masipopal/). In the public domain.

Social support. Analysis of Instagram posts related to addiction yielded the theme of social support. Images and comments in this theme include the codes of addiction experience, help-seeking, identification, supportive, social influence, and testimony (Figure 17). Codes that support the theories of social learning and social support make up this theme. Social learning and social support are necessary components of wellness, as well as addiction prevention and recovery (CDC, 2016; DePierre et al., 2014; Guan & Subrahmanyam, 2009).
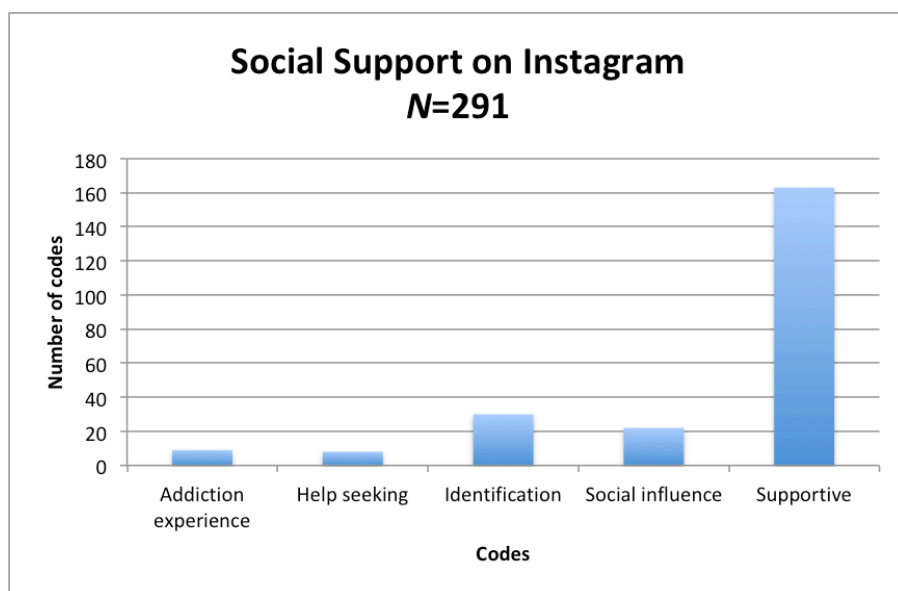
Figure 17. Social support codes. This figure illustrates the number of references in coded Instagram content that related to social learning.

Addiction experience. Within the theme of social learning, the code of addiction experience emerged and was used with moderate frequency. Coded data included references to oneself, a loved one, a friend, or an acquaintance, which suffers or recovered from addiction. This code appeared 10 times in the data, most often accompanied with the hashtag #addiction and #recovery. This image (Figure 18), hashtagged #addiction and #recovery, is a typical post that garnered the code addiction experience. The comments that accompany what may be presumed to be a photo of the sharer @kristinawanzilak describe her work with suffering addicts and she asserts that she has been at war with addiction.

Figure 18. Instagram post of woman listening. Hashtagged #recovery and #addiction, coded addiction experience. From "@kristinawandzilak", June 8, 2017. (https://www.instagram.com/kristinawandzilak/). In the public domain.

Help-seeking. Within the theme of social learning, the code of help-seeking emerged and was used with moderate frequency. Help-seeking is a necessary component of addiction recovery. Data coded help-seeking contained examples such as "I need help," "I can't stop," "how do you..." and were most often accompanied with the hashtag #addiction. The following quote was taken from comments on a selfie that was shared on June 5th, 2017 with the hashtag #addiction, "Where's the insta story today?! I need your positive vibe to help me on this rainy cloudy Monday! Lol. As you say, love to you ❤."

Identification. The code of identification emerged from the theme of social learning. Data coded as such demonstrated identification or empathy. Examples included words like "truth," "100%," "So true," and the emojis of clapping, a heart, or hands in prayer. This code was used with frequency. Data coded with identification appeared 33 times, most often accompanied with the hashtag #recovery. The quote below (Figure 19) is typical of the comments shared on posts that were coded with identification. This quote accompanied the

before and after photograph displayed below of a person recovering from an addiction to

methamphetamines. "I've been through recovery too, it wasn't easy but it was worth it. So proud

of you."
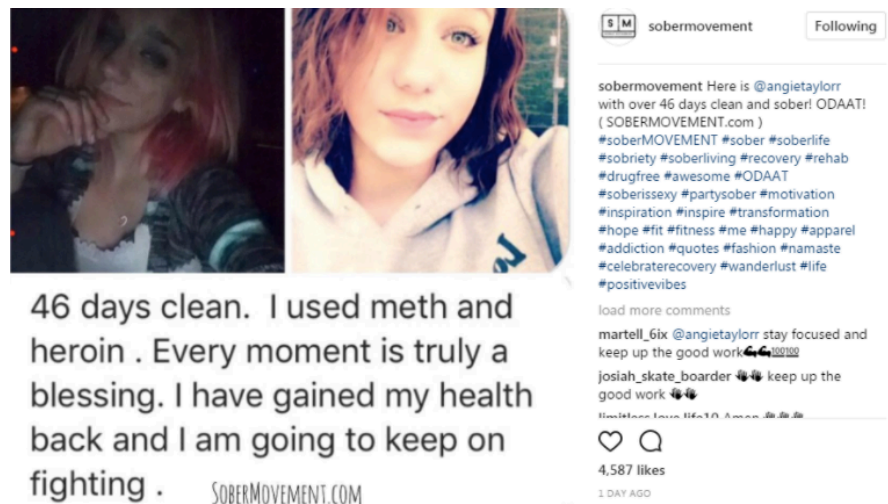
Figure 19. Instagram post of before and after addiction recovery. Hashtagged #recovery, coded
identification. From "@sobermovement", June 8, 2017.
(https://www.instagram.com/sobermovement/). In the public domain.

This comment below, which was coded as identification, accompanied a selfie with

comments from the sharer that described a difficult day, which included feeling hopeless, yet

determined, to recover after a car accident that occurred following her psychiatrist appointment.

The comments here are from another user who seems to be offering support.

> You transformation is amazing! Have been there and know the absolute grip it can have.
> Sad for the years I lost to this dreadful disease, but happy I am now enjoying life on the
> other side (especially as a parent of two now :). You absolutely glow, and your triumph
> inspires others. Good work, lovely lady. You are one tough chick.

Supportive. Within the theme of social learning, the code of supportive emerged. This

code delineated messages to resist the pressure of stigma, tips on how to replace behaviors and

thinking that lead to substance abuse, messages of identification, or 'you are not alone' oriented

messages. Coded data included messages about sober-living, combatting stigma, and the science

of physical intimacy. This code also yielded quotes that support healthy lifestyles as well as

words of encouragement to support healthy psychological, behavioral, and cognitive disciplines that protect against addiction and aid in recovery. Examples also included cognitive behavioral strategies and strategies for relying on social support. These messages seemed intended to invoke laughter and provide amusement. Some included puns, physical humor, and unusual connections, self-deprecation used to juxtapose healthy vs. unhealthy thoughts and behaviors, choices, and habits. Some messages were ones of advice on "how to" and fitness routines, food portions, and healthy food preparation. Coded words from comments included "keep working," "don't give up," "you need...," "all you have to do...." Supportive appeared 162 times in the data, most often accompanied with the hashtag #recovery or #addiction and typically in the form of comments on shared photos of before and after photos or exercise photos. This image (Figure 20) is a typical post that garnered the code supportive. It was accompanied by the hashtag #drugs and #recovery. The user shared supportive comments, describing his workout and eating regime, writing, "You don't need #meat #drugs or any other enhancements to be fit and healthy."

Figure 20. Instagram post of man lifting weights. hashtagged #recovery, #addiction, and #drugs, coded supportive. From "@domzthompson", May 13, 2017. (https://www.instagram.com/domzthompson/). In the public domain.

The following comments of support accompanied a before and after photo, hashtagged #recovery, of a woman who had lost a significant amount of weight. Comments were from multiple different users.

> #Staystrong
> Beautiful Princess
> Stay strong.
> Stay strong daring
> You're beautiful

Social influence. Within the theme of social learning, the code of social influence was used with some frequency. social influence appeared 22 times in the data, most often accompanied with the hashtag #recovery and #addiction. This comment is a typical post in the form of a comment that garnered the code social influence; "• jaelynxbabyyyour writing is cathartic and so beautiful. i'm grateful to have read it. i could spend hours on your page. i'm ordering your book asap ♥." The post (Figure 21) was hashtagged #addiction.

Figure 21. Instagram post of a poem. Hashtagged #addiction, coded social influence. From "@findinglostsouls", June 8, 2017. (https://www.instagram.com/findinglostsouls/). In the public domain.

This quote related to social influence accompanied an image of a girl dancing. In her comments she hashtagged #recovery and #doublejawsurgery; "• beckacaddiganYou are such an example to me. Bless you, warrior woman. Glad you feel well enough to dance again!" The quote that follows was coded social influence. It was hashtagged #recovery. The image it accompanied was of before and after x-rays of a spine.

> galluponbyI followed you for your impressive martial arts technique and work ethic,(helps keep me motivated) I had no idea you'd gone though something like this. True strength of spirit, keep working to preserve the old ways. Osu!

Testimony. Within the theme of social learning, the code of testimony emerged. Data coded as testimony included first person narrative that may enable identification and social support. Messages of testimony included sobriety dates, requests for help, cutting recovery, and sharing of recovery status. They also included messages of changing diet, suicide recovery, injury recovery, and recovery from accidents. The code of testimony was used 59 times in the data, most often accompanied with the hashtags #addiction and #recovery. This image (), with comments below that give it context, is a typical post that garnered the code testimony. The comments were also coded with social influence. One comment read, "• randi725 This piece makes me rethink my use of social media. I've been considering going cold turkey."

Figure 22. Instagram post of drawings of shackled hands. Hashtagged #addiction, coded testimony. From "@cisaachanson", June 8, 2017. (https://www.instagram.com/cisaachanson/). In the public domain.

Wellness. Instagram addiction related hashtag data analysis yielded the theme of wellness. The wellness theme included references to strategies for actions or mindsets that contribute to overall well-being. Addiction is antithetical to well-being, so messages of well-being may help in the prevention and recovery from addiction. Within this theme, several codes emerged: abstinence, fitness, goals, growth/change/recovery, healthy coping, and healthy substances, prevention, and recovery. 45% of the content in this theme was coded supportive. The codes used most often are shown in Figure 23.
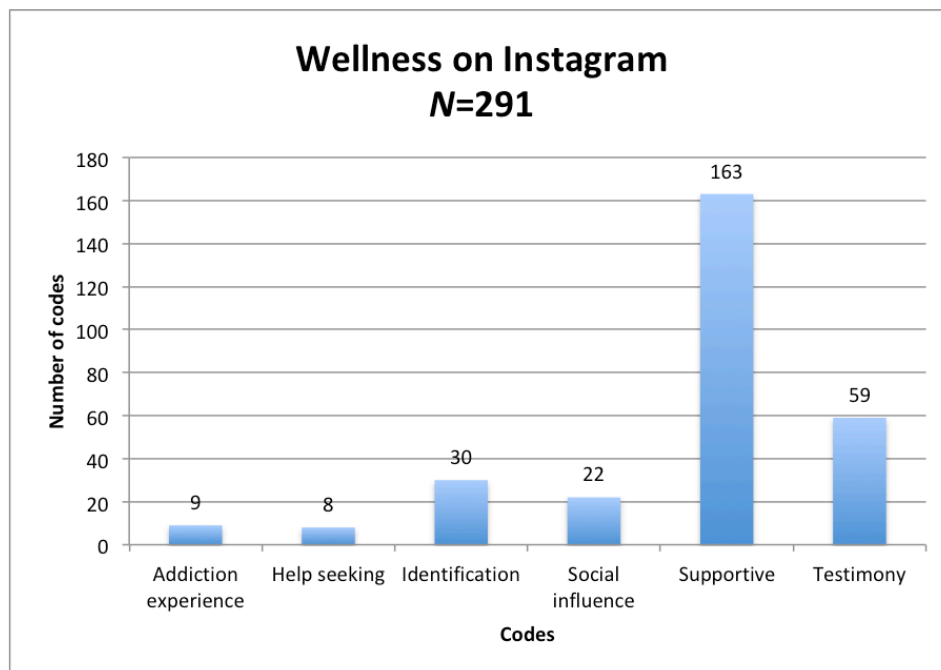
Figure 23. Wellness codes. This illustrates the number of references in coded Instagram content that related to wellness.

Goals. Within the theme of wellness, the code of goals emerged and was used with

moderate frequency. The code of goals appeared nine times in the data, most often accompanied

with the hashtag #addiction and typically in the form of comments on shared photos of physical

exercise. This image (Figure 24) is a typical post that garnered the code goals. One comment

used the word goal and read, "gatorss__My goal is to work at inshape and gnc @kurtisrandall0."

Figure 24. Instagram post of captioned job interview image. Hashtagged #addiction, coded goals. From "@powerliftingmotivation", July 19, 2017. (https://www.instagram.com/powerliftingmotivation/). In the public domain.

Growth/change/recovery. Within the theme of wellness, the code of

growth/change/recovery emerged. This code encompassed stories or references to recovering

from addiction or changing habits such as "today I did the things that I didn't do yesterday" and,

"I choose to get better" and "I'm better now" and images of a physical change of appearance.

Examples included evidence of improvement over time such as "I was once a 'skinny girl'" and

"I feel better at 135 than I did at 118" and before and after photos. This code included references

to recovery specifically, such as: "I recovered" or "She's in recovery" or "I'm healed." It also

included resources that support health and well-being, such as weight loss, massage therapy,

meditation, recovery support groups, rehab centers, weight loss, and massage therapy. Other

messages of growth/change/recovery were references to addiction being caused, prevented, or

recovered from, through learning. Examples included messages about 12 step jargon and

recovery such as AA and NA, higher power, sponsor, therapy, counseling, rehab, IOP,

psychiatrist, and peer and family exemplar behaviors. This code was used with frequency.

growth/change/recovery messages appeared 108 times in the data, most often accompanied with

the hashtag #recovery, and typically presented in the form of comments on shared before and

after photos. Figure 25 shows a typical post that garnered the code growth/change/recovery. One

of the comments on this post provides social support and demonstrates a typical message with

the code of growth/change/recovery, "reddawnak74U look so much healthier."

  Healthy activities. Within the theme of "wellness," the code of healthy activities

emerged. Messages coded healthy activities included actions such as hobbies that can replace

addictive behavior such as fitness, training, and sports like fishing, hunting, soccer, team games,

as well as board games. Images or references to healthy activities were of physical fitness such

as: soccer, weight lifting, yoga, water sports, and running. The healthy activities code was used

with frequency. Healthy activities appeared 117 times in the data, most often accompanied with

the hashtag #addiction and #recovery, and typically in the form of comments on shared photos of

exercise. Figure 26 is a typical post that garnered the code healthy activities. In the comments the

sharer talked about weightlifting and advertised her business. It was hashtagged #recovery.
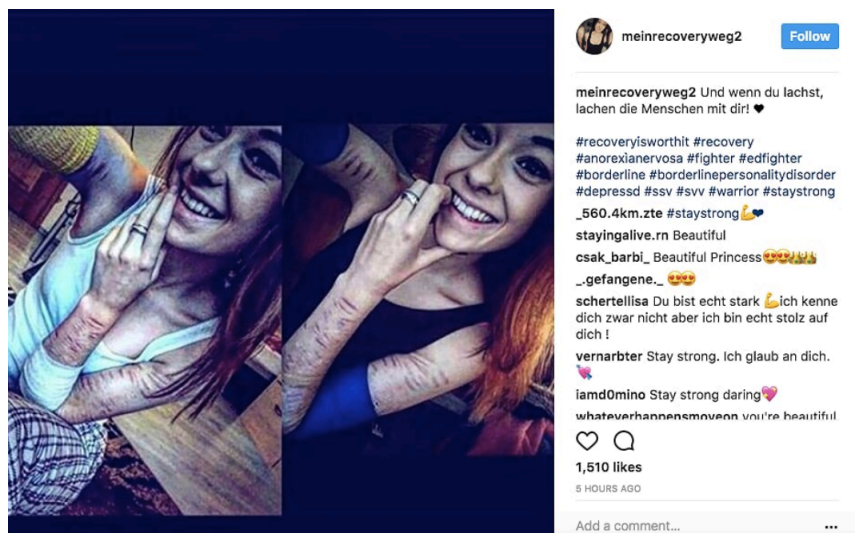
Figure 25. Instagram post of girl with cuts on her arms. Hashtagged #recovery, coded
growth/change/recovery. From "@meinrecoveryweg2", May 13, 2017.
(https://www.instagram.com/meinrecoveryweg2/). In the public domain.

Figure 26. Instagram post of a girl and dog on floor. Hashtagged #recovery, coded healthy activities. From "@jackie585", June 20, 2017. (https://www.instagram.com/jackie585/). In the public domain.

Healthy coping. Within the theme of wellness, the code of healthy coping emerged and was used 12 times. Examples included messages like "I am doing what I need to do today" and "this is how I do life." This code was most often accompanied with the hashtag #recovery and typically in the form of comments on shared photos of eating disorder before and after images. Figure 27, describing the user's struggle to cope, garnered the code healthy coping. The user is using words and social support through sharing to cope with her psychological pain. The user's name is @the_bipolar_barbie.

the_bipolar_barbie Following

the_bipolar_barbie I feel so exhausted. So weak and drained. I have been on edge for days, my heart beating so fast its bound to run out. No where is safe, there is no rest. I am surrounded by a world I dont seem to fit into. A world I cant seem to get used to. A place that never feels like home. A fight that never ends and a war I just cant seem to win. It takes all of my concentration to just be alive. To exist in such a state of fright. No where to run, no where to hide just suck it up and deal with it. I hate it when people tell me thats what I have to do. Well duh you idiots! I do that every second of every day! But you suck it up and deal with it because for your problems there is an end! It will pass and in time you will be ok again! But for me its the oppositie. Suck it up each day until I manage to get to sleep at night knowing

1,603 likes

14 HOURS AGO

Add a comment...

Figure 27. Instagram post of a captioned selfie. Hashtagged #recovery, coded healthy coping. From "@the_bipolar_barbie", June 20, 2017. (https://www.instagram.com/the_bipolar_barbie/). In the public domain.

Healthy substances. Within the theme of wellness, the code of healthy substances emerged. Healthy substances are considered to be whole, natural substances such as those found on Federal guidelines for healthy foods. Posts coded healthy substances included fruits, vegetables, nuts, protein, legumes, spices, salad, baked vegetables, vegan food, and wholesome meals. This code was used several times, most often accompanied with the hashtag #recovery and typically in the form of comments on shared photos of a person working out. This image is a typical post that garnered the code healthy substances. Among many hashtagged words, Figure 28 was hashtagged #recovery, #addiction, and #eatclean.

Figure 28. Instagram post of bowl of fruit. Hashtagged #recovery, and #addiction, coded healthy substances. From "@xanjuschx", June 20, 2017. (https://www.instagram.com/xanjuschx/). In the public domain.

Addiction Belief Scale (ABS) Survey Findings

The ABS provides a total score that measures the degree to which individuals believe in either a disease model or a free-will model of addiction. The ABS is an established tool that underwent factor analysis to ensure internal consistency of the models of free-will or disease perspectives. The higher the overall ABS score, the higher the intensity of belief in the disease model of addiction. The lower the overall score, the more the subject believes in a free-will model of addiction (being caused by behaviors to a greater extent; DePierre et al., 2014). The highest possible overall score is a 90. The free-will model views addiction as a voluntary behavior characterized by responsibility and willfulness (Schaler, 1991) as opposed to the disease perspective that the brain changes through substance use, leading to an inability to abstain from use (Volkow et al., 2016).

Individual overall ABS scores ranged from a high of 64 to a low of 40 and a mean score of 53.36 (Figure 29). Given the scale midpoint, all but one subject scored higher than 45 indicating more belief in the disease model. Elizabeth (ABS 64) had the highest score indicating the strongest belief in the disease model. Two other subjects also scored above 60 clearly leaning more towards seeing addiction from the perspective of disease rather than free-will. Seven had scores ranging from 47 to 56 closer to the midpoint score yet still more towards the disease model. Only one subject, Mary (ABS 40) had a score indicating more belief in a free-will model. Elizabeth (ABS 64) believes in the disease model most and Mary (ABS 40) believes in the free-will model most. Five subjects clustered in the 50-53 range.
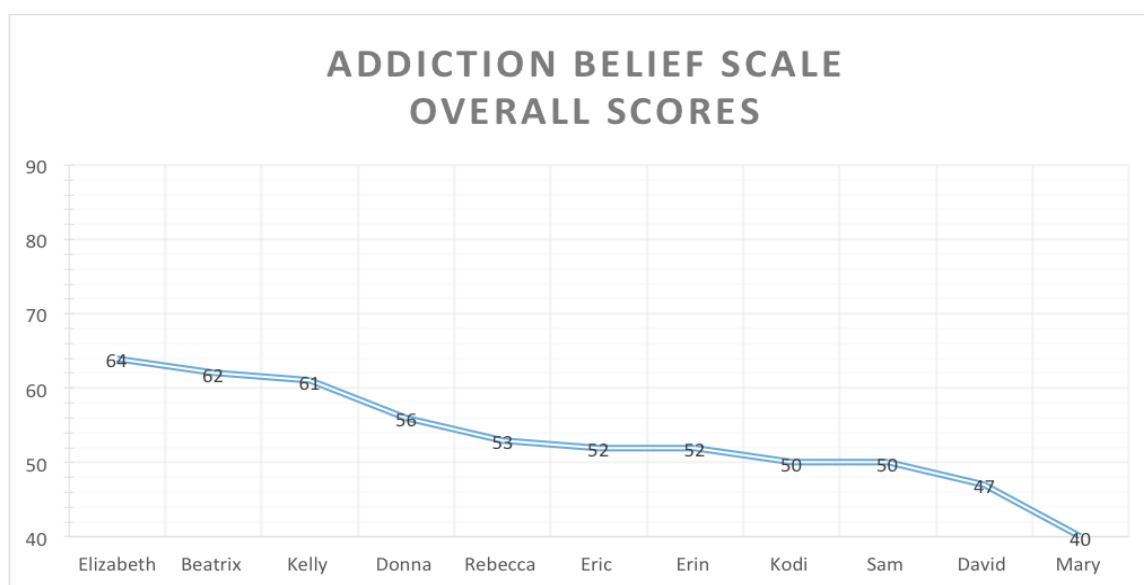
Figure 29. Addiction Belief Scale overall scores. Elizabeth (ABS 64) had the highest score indicating the strongest belief in the disease model. Mary's (ABS 40) score reflects a belief in a free-will model.

Looking closely at responses to individual items within both models provides further insight into how these subjects perceive addiction. Tables 4 and 5 show mean ratings and number of subjects who indicated disagreement to the item. Table 4 shows adolescents ascribing more heavily towards the disease model of addiction, demonstrating a belief that addiction means a loss of self-control.

Table 4

Disease Model Items

| | | Number of Subjects Indicating Disagreement | |
| | Mean | Number of Subjects | Number of Subjects |
Disease Items Focus	Rating	Who Disagree	Who Strongly Disagree
Forced to recognize problem	4	1	0
Only solution is treatment	3.55	3	0
Abstinence only way to control	3.45	3	0
Can't control selves	3.27	1	0
Never outgrow	3.09	2	1
Must admit powerlessness	3	3	2
Genetic disease	2.91	3	1
Physiology determines addiction	2.73	3	1
All-or-nothing disease	2.18	2	4

Answers to free will items demonstrate a belief in addiction as a choice. The two male subjects scored closer to the free-will model and the nine females scored an average of 3, which means they are uncertain. Overall scores (Figure 29) demonstrate that the adolescent subjects are uncertain about addiction. Average scores of each item among all subjects were 2.99. The score of 3 for each question represented the answer of uncertain.

Table 5

Free-will Model Items

| | | Number of Subjects Indicating Agreement | |
| | Mean | Number of Subjects | Number of Subjects |
Free-will Items focus	Rating	Who Agree	Who Strongly Agree
Often outgrow	3.45	6	1
Has more to do with environment	3.36	5	1
Can find own way out	3.27	6	0
Way to cope	2.91	3	0
Best way out is to rely on willpower	2.82	3	1
Have to rely on self to overcome	2.55	4	0
Can learn to moderate	2.18	0	0
Can stop if develop new ways to cope	1.91	5	1

Table 6 displays the focus of disease model questions with the mean and range scores. Mean scores are listed in descending order with highest mean scores listed first. Also listed are the number of strongly disagree responses.

Table 6

Disease Model Questions

Disease Items focus	Mean Rating	Range	Number of Subjects Indicating Strong Disagreement
Forced to recognize problem	4	3	0
Only solution is treatment	3.55	3	0
Abstinence only way to control	3.45	3	0
Can't control selves	3.27	3	0
Never outgrow	3.09	4	1
Must admit powerlessness	3	4	2
Genetic disease	2.91	3	1
Physiology determines addiction	2.73	3	1
All-or-nothing disease	2.18	3	4

All but two subjects believe that addicts need to be forced to recognize they have a problem. One was uncertain and one disagreed. No one strongly disagreed. Six subjects disagreed that addiction is an all-or-nothing disease, where a person can have a mild drug problem. Three were uncertain if addiction was all-or-nothing, and four strongly agreed that addiction is an all-or-nothing disease. When asked if a person must admit powerless in order to recover, subjects were divided. Two strongly agreed, two strongly disagreed, three agreed, two disagree, and one was uncertain.

Table 7 shows the focus of free-will model questions with the mean and range scores. Mean scores are listed in descending order with highest mean scores listed first. Also listed are the number of strongly disagree responses. When asked if people often outgrow an addiction, six subjects agreed, one strongly agreed, one was uncertain, and two disagreed. When asked if a

person can stop their addiction when they learn new ways to cope, one agreed, one was uncertain, five disagreed and four strongly disagreed.

Table 7

Free-will Model Questions

Free-will Item focus	Mean Rating	Range	Strongly Agree
Often outgrow	3.45	3	1
Has more to do with environment	3.36	4	1
Can find own way out	3.27	3	0
Way to cope	2.91	3	1
Best way out is to rely on willpower	2.82	4	1
Have to rely on self to overcome	2.55	3	0
Can learn to moderate	2.18	1	0
Can stop if develop new ways to cope	1.91	3	0

Interview Findings

> I'd say, like I don't know, [addiction is] an action that somebody can't stop. I don't know. That's hard. – Erin (ABS 52)

Eleven interviews with adolescents who are members of a SADD club, and who engage with Instagram, were conducted. Interviews lasted between 45 minutes and an hour and were completed from June 25th through June 30th 2017. Analysis resulted in four themes comprising 30 specific codes (Table 8).

In discussing questions about the nature of addiction with the subjects, the first theme of general conceptions of addiction emerged. Within this theme, 13 codes emerged. For instance, subjects all demonstrated confusion about the nature of addiction. This confusion tended to show a tension between addiction as a choice (free-will model) and addiction as a disease. From subject responses, another theme of unhealthy behaviors emerged, with seven codes that related to these unhealthy behaviors. The codes within the theme of unhealthy behaviors show adolescents seem to have had exposure to behaviors that can contribute to addiction. social learning emerged as a theme, with six codes that demonstrate the subjects' understanding of the

role of social learning in both the development of an addiction and recovery from addictions.

Lastly, the theme of wellness emerged, with four codes that demonstrate the subjects have some

awareness of the healthy behaviors that can guard against addiction and its recurring behaviors.

Table 8

Interview Themes and Codes

Conceptions of Addiction	Unhealthy Behaviors	Social Learning	Wellness
Confusion	Denial	Friends taken	Healthy activities
Choice	Using to cope	Environment	Help seeking
Disease	Negative Social	Social media	Growth/change/recovery
Dichotomous	Comparison	Testimony	Healthy coping
Thinking	Stigma	Social influence	
Addiction as a	Glamorizing/	Social support	
learned disorder	Normalizing		
Progression	Glorified other		
Cravings			
Worst taken			
Experience with			
addiction			
Temperament			
Trauma/substance			
abuse relationship			
Recognition of the			
problem			

Conceptions of addiction. The responses from the 11 subjects interviewed about the

nature of addiction fell into a theme of conceptions of addiction. These responses showed the

subjects had learned and formed thoughts about the nature of addiction. Within this theme, 13

codes emerged: confusion, choice, disease, dichotomous thinking, addiction as a learned

disorder, progression, cravings, worst taken, experience with addiction, temperament,

trauma/substance abuse relationship, and recognition of the problem. The coded transcripts

showed a level of thoughtfulness, as well as confusion about what addiction is, how much

responsibility addiction individuals bear, and how to recognize addiction. These codes relate to

the central theme of conceptions of addiction, demonstrating that the subjects have formed perceptions about the nature of addiction with some level of sophistication.

Confusion. Most of the subjects demonstrated various levels of confusion regarding the nature of addiction. Most of their confusion centered on the personal culpability of the addicted person. The subjects often vacillated between portraying addiction as a choice, or a disease. Several subjects, within the same response, contradicted themselves. This thinking most often reflects the either-disease-or-choice thinking that dominates addiction (Pickard et al., 2014).

These first two quotes indicate clearly the confusion subjects feel when explaining their perceptions of addiction.

- I'd say, like I don't know, [addiction is] an action that somebody can't stop. I don't know. That's hard. – Erin (ABS 52)

- I don't know if it's a disease or just something you're born with. Addiction has to do with, like, your mental, like, something in your brain. You can't control yourself. It's a sickness almost. – Elizabeth (ABS 64)

The subjects contradict themselves in the following quotes, demonstrating their confusion on the nature of addiction.

- Most of the time you're not going to know [a person is addicted]… The silver lining to addiction is that you can't hide it – Eric (ABS 52)

- Addiction is something you can't really change but you have the choice - David (ABS 47)

- When they can't stop unless they want to – Beatrix (ABS 62)

- With help they can learn to moderate it, but to be truly un-addicted they have to cut it off – Beatrix (ABS 62)

These quotes paint addiction too broadly, demonstrating an unclear understanding of the nature of addiction.

- Addiction can be anything they don't have control of - Kodi (ABS 50)

- Drugs change who you are so it's harder to get back to the person you were. – Erin (ABS 52)

- [Misusing substances] without a sense of consequence – Kelly (ABS 61)

- To an extent they lose control, but it depends on the person. – Beatrix (ABS 62)

This quote from David (ABS 47) describes addiction as learned socially, but demonstrates either-or thinking on how addiction is learned. "It's not genetic. It's the environment you grow up in. Your social environment doesn't make you addicted but at home it does. It's forcing you into it from a young age."

Choice. Many of the subject's responses alluded to, and often openly referred to, the concept of choice as a component central to a conception of addiction. The code of choice can be inferred when subjects used the words, choice, willpower, want, themselves, or control. The word want was used 76 times during the 11 interviews. The quotes below demonstrate the subject's contemplation of choice as it pertains to substance misuse and addiction. Specifically, three subjects made comments regarding the choice to use a substance for the first time.

- It's your choice to do it again. You're not really addicted after one time – Sam (ABS 50)

- A person can choose not to be addicted by not trying it in the first place. I see it in other people; they choose not to do it at all. – Sam (ABS 50)

- A person can choose. If they know it runs in their families maybe they should make the choice of staying away from something completely – Rebecca (ABS 53)

- It's your decision to bring the substance into your life. You're picking it up and doing it yourself. – Erin (ABS 52)

Two subjects spoke to the notion of choosing not to be addicted after they have used a substance.

- You can choose not to be addicted by recognizing how much you use it – can't think of word – realizing how much you use it and if you make sure you don't use it too much and you use it sparingly you can not become addicted – Mary (ABS 40)

- A person can choose not to be addicted by seeking help from a professional and from family and friends. It's their decision. – David (ABS 47)

Two subjects discussed their personal experiences with making the choice to not misuse substances.

- I've definitely been offered pot. I would definitely continue to say, 'no' because I choose not to fall in that path, but you don't really have a choice saying you won't fall into that path. No one chooses to become addicted – Beatrix (ABS 62)

- I've been offered weed on multiple occasions and said no – Elizabeth (ABS 64)

The following usages of the word willpower imply an individual's ability to choose. The word willpower was used 17 times during the 11 interviews. The word themselves implies a sense of personal control and was used 23 times during the 11 interviews. The word never was used 64 times during the 11 interviews. The word can't was used 59 times during the 11 interviews.

- You need your willpower a lot [to recover from addiction] – Rebecca (ABS 53)

- You can totally control it – Mary (ABS 40)

- You have to rely on yourself to have the willpower. On the every day occasion I decide not to go in search of it (but it's never been hey do you want this) – Kelly (ABS 61)

- If you're addicted then you need to push yourself to move away from it and that's all willpower. You can totally control it – Mary (ABS 40)

- There are some people who have their own willpower but others who can never [recover from an addiction] by themselves. Some do understand self-control after they're addicted. In the end, you're the only one who can make yourself stop. – David (ABS 47)

The word control was used 47 times during the 11 interviews. To assert that one has control implies that individual's have choices. For example, David (ABS 47) stated, "A substance can have a certain amount of power over you but you still have control." Others acknowledged the slippery nature of choice as it pertains to addiction. Kodi (ABS 50), Sam (ABS 50), and David (ABS 47) described addiction as a choice that becomes a disease that an individual can't stop.

- It begins as a choice, and then it turns into a disease where you can't stop – David (ABS 47)

- If it's a drug that has something in it that causes you to come back, then it's not a choice – Kodi (ABS 50)

- There are bad choices but addiction is not a choice – Eric (ABS 52)

- It's definitely not a choice. You can't really decide that kind of thing. If you could, everyone would know how to please themselves. I don't know if it's a disease or just something you're born with – Elizabeth (ABS 64)

Disease. The quotes below demonstrate the subjects' contemplation of addiction as a disease. This first quote most clearly demonstrates the either-disease-or-choice thinking that dominates addiction studies (Pickard et al., 2014).

- It's more of a disease than a choice – Rebecca (ABS 53)

- Not a disease and something that will never go away. – Mary (ABS 40)

Both Elizabeth (ABS 64) and Beatrix (ABS 62) hint towards an understanding of an individual's susceptibility to addiction. The implication of this quote is that an individual is a victim of addiction. "Addiction, the way I perceive it, is as a disease so they're that way because of what's inside them." Beatrix (ABS 62), Elizabeth (ABS 64)

This next quote demonstrates a perception that an individual has no control to abstain from their substance misuse without professional help. Kelly (ABS 61) stated, "Addiction is a disease because it has to be treated and it can't be wished away." The following quote by Donna (ABS 56) most clearly articulates the tension between the disease and free-will models of addiction (Heyman, 2013); "Addiction is a combination of both a disease and a choice."

Dichotomous thinking. The dichotomous thinking theme emerged from comments that exhibited what is known as black-and-white thinking. The following quotes are from the perspective that addiction is all-or-nothing. Disease model thinking tends to see addiction in this way, as either-or (Schaler, 1997). Either-or-thinking may be seen with words like always, never, cannot and helpless. The first quote by Elizabeth (ABS 64) shows the clearest example of dichotomous thinking. "A lot of people are one or the other [addicts or not]."

Several subjects explained addiction as something that cannot be moderated or left behind. Two subjects asserted that a person cannot outgrow an addiction. "You cannot outgrow an addiction." Sam (ABS 50). Beatrix (ABS 62) and Rebecca (ABS 53) took this notion further

and alluded to the idea that a person cannot learn to moderate their use. "To give up addiction you can't keep doing it. They can't go back and say, 'Oh, one more wont hurt.'"

These next two quotes imply that an outside force is needed to overcome an addiction.

- For most to get help you need to force them – Rebecca (ABS 53)

- You can't rely on willpower because addiction is such a severe mental circumstance – Elizabeth (ABS 64)

Two subjects spoke to the notion that an addicted person is helpless. To be helpless is to be without power and unable to change.

- They need to acknowledge they're helpless and then they can get over it – Eric (ABS 52)

- The first most important step is admitting that you need help and can't do it on your own – Erin (ABS 52)

Addiction as learned disorder. While most of the subjects quoted above chose to categorize addiction as a choice, a disease, or some combination of the two, Eric's (ABS 52) definition explains the learning theory of addiction best.

> I don't think it's an illness; it's more like a disorder, because the medicine for addiction is therapy, AA, or NA. It's much more mental than physical and we have terrible view of mental disorders. Like, could you choose not to have a mental illness like addiction? It's a layered problem.

Progression. Juxtaposed against dichotomous thinking, or disease model thinking of addiction, are quotes below that speak to the progressive nature of addiction. The following quotes imply recognition of this progressive nature of addiction, as described in the DSM-5. The DSM-5 characterizes addiction as existing on a continuum, whereby the addiction becomes worse over time and through use (APA, 2013). This first quote from Sam (ABS 50), perhaps ironically, embodies both black-and-white, dichotomous thinking and yet also demonstrates the

progressive nature of addiction. "At first it's a choice, but then it becomes a need." This next quote from Eric (ABS 52) offers the simplest and clearest explanation of the concept of addiction as existing on a progressive continuum. "They were drinking much more often." This quote from Sam (ABS 50) gives examples of the progression by naming substances. The inference is that since heroin is illegal, it is the most severe of the drugs listed. "Opiates – that's how they start – with pain pills like Oxycontin, then actually opium, then heroin."

These next several quotes offer benchmarks, showing how the subjects identify the progression of addiction. A common thread in most of these quotes is family problems, and reprioritization of family.

- [You can see they're addicted] by their habits, and if their life is changing, going downhill, and they have problems at work, and with their family. They go off the deep end and leave their family – David (ABS 47)

- [You can see they're addicted] when they're putting [substance misuse] in front of their friends, their job, their family, and they're finding all the times to do it - and when they're not doing it - they're not focused on anything else – Elizabeth (ABS 64)

- If your willpower has been overcome by drugs over and over again it's not that easy to stop. I know someone who lost his license twice, he's been in an accident under the influence, for 15 years he won't have license, he's falling into things, and he just ruins things for himself – Beatrix (ABS 62)

- She just kind of lost herself, and good things, and time with her family, and it really exploded, her life. – Elizabeth (ABS 64)

The next two quotes explain a reprioritization of what is important, as a person moves along the progressive continuum of addiction. Elizabeth, above, clarifies this reprioritization as

thus: they're not focused on anything else. In doing so, like Sam (ABS 50), quoted first in this

section, Elizabeth explained both the progression, and also exhibited dichotomous thinking.

These next two quotes describe the prioritization of the addiction over other people.

- [You can see they're addicted] when the object of their addiction is put on a pedestal

  and put as a priority in front of important things and others in their lives – Kelly

  (ABS 61)

This quote echoes the prioritization of the addiction at the cost of daily decisions. It also brings

in the concept of acting without regard for consequence, as is a benchmark of addiction.

- [You can see they're addicted] when they're changing their every-day schedule,

  causing decisions you normally wouldn't make, doing things that would get you into

  trouble and doing it anyway – Sam (ABS 50)

Cravings. Subjects also tapped into other benchmarks of addiction as when they allude to

physical cravings. The quotes below demonstrate an awareness of cravings as a benchmark of

addiction.

- You can quit but there's still people who it's still itching in their body – Eric (ABS

  52)

- Like, you need to satisfy this urge. You can use medicine to detox – Elizabeth (ABS

  64)

This next quote implies an understanding of the detoxification process addicts undergo

when abstaining from the substance. This detoxification process is marked by physical cravings.

Rebecca (ABS 53) said, "When people are going through the process of detoxing, they still use

drugs." This quote from Elizabeth (ABS 64) speaks to the difficulty of resisting physical

cravings; "It's easy to do it once but then they fall back into the spell."

This quote from Mary (ABS 40) speaks to the psychological anguish an addicted person experiences when abstaining from a substance. "If you notice that someone gets very, very, angry or has mood swings when they're not using it and then that totally makes them feel better and happier and if they don't have it they're miserable."

Worst. The physical and psychological anguish an addicted person experiences, when abstaining from their substance begs the question, "Are any substances worse than others?" Most subjects believed that some substances are more addictive than others. Eight of the 11 subjects thought opiates are most addictive. Only one subject, Beatrix (ABS 62), thought there was no difference in how addictive substances are. David (ABS 47) and Kelly (ABS 61) both added cocaine and Kelly (ABS 61), Sam (ABS 50), and Kodi (ABS 50) added nicotine to the list of most addictive substances. Sam (ABS 50) added coffee to the list. In this next quote, Eric (ABS 52), again, alluded to the progressive nature of addiction in clarifying that some substances cause more damage, more quickly, to a person. He asserted, "Coffee is most addictive but the amount you'd have to drink, it would be other factors that killed you. Opiates to be the hardest because by then they're so out of it."

Elizabeth (ABS 64) also felt there are some addictions that might be harder to stop, but that others are more immediately life-threatening. She said, "Internet or phone addiction doesn't kill your body in a very direct way, the way heroin and alcohol does." Eric (ABS 52) later added evidence to demonstrate proof that heroin is, in fact, worse than other substances, stating, "It's the heroin epidemic we keep hearing about." Kodi (ABS 50) alluded to there being a difference between psychological and physical addiction and cravings, stating, "Some drugs have substances that cause you to come back to them while other is all mental and in head."

Taken. While articulating conceptions of addiction, the subjects shared first hand experience with various substances. The subjects as a whole seemed to engage with substance misuse very little. Some subjects did acknowledge that they've misused substances, however. One subject, David (ABS 47), said he'd had a "sip of alcohol."

Sam (ABS 50), Elizabeth (ABS 64), and Beatrix (ABS 62), all said they'd had alcohol. Sam (ABS 50) acknowledged she drinks coffee. Erin (ABS 52) also said she'd had alcohol but she clarified that she had not felt drunk, stating, "I've had drinks before, but I haven't gotten drunk out of my mind." Eric (ABS 52) admitted to having alcohol and marijuana, but explained why he did not continue to misuse the substances: "I had a little alcohol, and marijuana, but I didn't like how it made me feel."

Experience with addiction. Although the subjects did not describe personal substance misuse that would rise to the level of addiction, all of the subjects have had experience with addiction. Several subjects have had experience with family or close relations. These subjects have had family members whom they, the subjects, have inferred had suffered from addiction. The word "experience" was used 27 times during the 11 interviews. Some of the rich quotes above, especially with regards to the progression of addiction, were informed by these experiences described below. This first subject, Donna (ABS 56), spoke in a general, perhaps guarded, way about her experience; "My family has experience with addiction." These next several subjects offered more specificity to their experience with addiction.

- I've been around it as a child and it's messed me up. Someone I knew in my family developed an addiction to prescription pills. At first she was ok, but as the addiction grew, it was more and more just to function, and she was powerless and defenseless – Eric (ABS 52)

- A person in my family, they drink excessively. I know a lot of people that have gone down bad roads and have turned to drug use, like I know a lot of people that are in jail, like, it's not like their bad people. They just went through some stuff, and they were close family, and, like, you would never have expected them to do any of that – Erin (ABS 52)

Others spoke of someone they inferred suffer/ed from addiction but who were not direct family members.

- My Dad knows a bunch of people that overdosed from heroin. He had a really good friend who had a son and he went away to rehab and came back and he was so used to the amount of heroin he used to do and he took too much and OD'd and died. Another really close friend of mine died of a heroin overdose. It helped me get a stronger sense of what addiction is – Erin (ABS 52)

- A mom I knew, she was always drunk – back then. My mom would tell me she was slurring words. She was like clearly not in mental state that everyone was in – Elizabeth (ABS 64)

These next two quotes speak of an understanding of the damaging nature of addiction to family bonds. David (ABS 47) directly asserted such: "There are moms or dads that I know of. It ruins families." Kelly (ABS 61) stated, "Certain family members are alcoholics, but we haven't spoken in a long time."

In this next quote, Eric (ABS 52) gave an example of the reprioritization discussed above, where the addicted person choses the substance misuse over family needs. "My father had to take me out in terrible weather because he needed more."

These next two quotes demonstrate exposure to addicted persons within their social circles.

- One of my best friends [engaged in] self harm – Kodi (ABS 50)

- I've seen a lot of people I know struggle with drug addiction – Rebecca (ABS 53)

This next quote makes the connection between experience, and learning from experience, as her mother tries to help Rebecca (ABS 53) see the consequences of substance misuse. Her mother seems to understand the impact of social learning. By sharing stories of kids Rebecca's age, Rebecca's mother is offering stories that might fit into Rebecca's Zone of Proximal Development (Vygotsky, 1978). We learn best from someone who is near to us developmentally.

> My mom is a nurse and she deals with a lot of young kids coming in and having problems because they're alcoholics. And she comes home and tells me, "I want you to be aware that this is what could happen."

The following quote offered by Beatrix (ABS 62) expressed a level of emotion in regards to witnessing a suffering addict.

> It's sad. It makes me feel like upset that that is their way when there's so many other ways to deal with things that I've learned and it's so like hard to watch. It makes it difficult because it isn't the only way proven to cope and to see someone falling in that path so early is sad.

Temperament. In considering the nature of addiction through the lens of their experiences with addiction, the codes of temperament, and trauma, as it relates to addiction, emerged from the subjects' responses. Several of the subjects alluded to the idea that there is something within a person that makes them, if not addicted, then susceptible to addiction. The following quotes refer to the subjects' inferences about the personal traits or natural disposition of the addict.

The first quote describes the addict as being physiologically different. Elizabeth's (ABS 64) use of the word embedded, along with her assertion that some are born with self-control, implies a physiological difference in a person that makes addiction come about.

> The personality type that you have, something in you that causes you to become addicted. It has to do with, like, your mental, like something in your brain. It's something embedded in you that makes you kind of attach to one activity. Some people are born with a lot of self-control, and others have the kind of brain that doesn't allow them to do that.

The following quotes take on a more psychological tone when describing why the addicted person is different.

- It's all like the state of mind. It's about, like, the past that you've been through, and your outlook on life, and outlook on yourself – Erin (ABS 52)

- [Whether someone will become addicted] depends on the person – Beatrix (ABS 62)

In contrast, this quote from Sam (ABS 50) asserts that there is nothing different about the addicted person. Sam argued, "The drug doesn't depend on your brain. Everybody is addicted to certain drugs." While possibly saying essentially the same thing as Sam, Kelly (ABS 61) argued almost the opposite - that everyone is different as it pertains to addiction. The inference here is that if everyone is different, then no one is more temperamentally disposed to addiction than another. Kelly stated, "[Substance use] affects everyone differently. Addiction is different for everyone."

Trauma/substance use relationship. In considering the notion that some people are temperamentally disposed to addiction, subject's responses suggested a relationship between trauma and substance use. The following quotes make the connection between trauma and substance misuse. In some of the quotes that follow, subjects draw a causal connection between substance use and trauma. As if to defend against the notion that an addicted person might be

considered temperamentally different, this quote by Erin (ABS 52) explains that their difference was caused by trauma. "It's not they're bad people, they just went through some stuff." Elizabeth (ABS 64) made the case that multiple traumas may lead to substance misuse, stating, "There can be factors in your life that lead you to that point."

The next two quotes give concrete examples of the types of trauma that could lead someone into addiction. Beatrix (ABS 62) described a case of persistent neglect and loneliness, while Sam (ABS 50) described episodic traumas.

- Mom's not around all that often. She travels for work and [my friend] stays home, so I think she's using drugs and alcohol to cope. – Beatrix (ABS 62)

- If someone passes away, or if they're getting bullied, or a divorce, it can cause them to want to escape reality. So tragedy is one of the main causes [of addiction] – Sam (ABS 50)

Two of the subjects (David (ABS 47) and Kelly (ABS 61) said there was no connection between addiction and trauma. According to Kelly, "People get introduced to drugs at any point in their lives, so they can become addicted at any point, rather than just at the worst parts of their lives." David went on to consider trauma as a factor, perhaps not for the addicted, but for those impacted by the addicted person, stating, "It's traumatic when someone uses heroin and they die."

Recognition of the problem. Within the theme of conceptions of addiction, the code, recognition of the problem emerged. The quotes below have common characteristics. The subjects had ideas on how to recognize the problem of addiction. Several discuss recognizing the problem by noticing repetitive use. Other quotes discuss the idea that there are markers to help recognize the problem. Some cited physical markers to recognize addiction. Several remarked

that the addicted person cannot see the signs, or cannot see them as well as others around them. Some discussed the notion of confronting the addicted with recognized signs of the problem. The idea that not all see problems as problems came up as subjects discussed the subjective nature of what constitutes a problem. Several remarked that it is important for the addicted person to recognize the problem for himself or herself, as part of the recovery process.

These quotes demonstrate the perception that repetitive use is a sign that a person is addicted.

- I think a lot of kids that I graduated with are going to be alcoholics some day because they do drink a lot. – Erin (ABS 52)

- She always had a drink in her hand. She was always drunk and nothing my mom ever did helped. I wasn't processing it. It was abnormal to always be drinking. – Elizabeth (ABS 64)

- If you're taking prescription level cough syrup then you're playing with fire. At the time I was very concerned because they were drinking much more often, it got to pot then it got to pills, some were medications, using all of them at once and it was a really bad situation. When she was on her high it was like a completely different person. – Eric (ABS 52)

These quotes acknowledge that there are signs to help recognize that a person is addicted.

- If you see that they want it more often than the normal person. They're gonna be looking for every excuse to have a beer or some wine and I guess same goes for the drug addict. They're gonna do anything in their power to get it. – Erin (ABS 52)

- There are always signs [that someone is addicted] but for every case it's different. They might act suspicious, different than normal. They might look different, or act different. If you really know them you should be able to tell. – Rebecca (ABS 53)

These quotes give clear examples of physical signs that signal addiction.

- Sometimes it's physical – if they look extra tired, if their eyes are red, the way they talk or act is off – or if know something is going on in their life, if you know the person you can see in their appearance, the way they act, they're not themselves. - Sam (ABS 50)

- Their appearance can change. Maybe they smell like smoke or have alcohol on their breath. Their attitudes change. They can be nice if they're laid back but some will be consistently tired, always fatigued, not always as sharp as they were. With harder drugs their skin starts going funky, like if they're on meth their teeth rot. – Eric (ABS 52)

These quotes assert that the addicted is unable, or less able, to see signs for themselves

- A girl I knew, she seemed so spaced out and in a void. She said she was doing all this to cope but then it got to a point where she enjoyed doing bad things and I thought there's nothing I can do. She has been clean for multiple years so if she never admitted problem she could've been way worse off. – Eric (ABS 52)

- I don't know if he's aware of it. He doesn't do anything to help. He's been to rehab, treatment centers. I don't want to say he's refused treatment but after treatment he goes back to the way it was. It definitely makes it difficult for his kids to know that their dad is drinking. He was addicted to pain killers and alcohol and he steals things

from everywhere, from his home, my family business, his wife and kids. Money and stuff like that so it's a huge burden on his family and mine. – Elizabeth (ABS 64)

- Addiction is hard to break without an intervention. – Kelly (ABS 61)

- They continued to drink without a sense of their consequences and how it negatively affected them. – Kelly (ABS 61)

- You might not know you're sick. – Eric (ABS 52)

- They don't recognize it as a problem. – Rebecca (ABS 53)

- Many have to be told they have a problem, such as by a family member. – David (ABS 47)

These subjects asserted that when one cannot stop drinking, this becomes a sign they are addicted.

- When it's clearly having a negative impact on their life and they still continue, if it's ruining things for them but they can't stop, when they want to stop but they can't, then it's addiction. – Beatrix (ABS 62)

- I thought it was one time but then she talked about doing it again then I realized she couldn't stop. Eventually I saw that she was tired all the time, she didn't sleep, and didn't eat a lot. – Kodi (ABS 50)

Some subjects described confronting the addicted with the recognizable problem.

- I even told my friend "I don't want to wake up and hear of the news that you died and that's when you know you have a problem." – Erin (ABS 52)

- A couple months ago, my mom got a call that this family member who was in trouble, because they gambled away money they didn't have, and people were coming to look

for him, and were going to destroy his car, so my parents gave him the money. –

Rebecca (ABS 53)

These last quotes speak to the subjective nature of determining when recognizing that an

addiction has formed.

- I know my own limits. – Eric (ABS 52)

- She was addicted to smoking. She smoked two packs a day, drank coffee, she took

  weight loss pills, without even eating. But it's not like a drug or alcohol. – Erin (ABS

  52)

- Nobody in my immediate circle is addicted so if they're using [substances] a few

  times throughout the year I don't see a problem, except breaking the law. – David

  (ABS 47)

- I don't think [my friend from middle school] is addicted. It's not like she's all the

  time under the influence, she does fairly well in school but she has posted pictures of

  like pot and then said #howigetalong whatever – that's basically proving that she's

  relying on those. – Eric (ABS 52)

- I don't know if her behavior was an addiction. It was a problem. – Eric (ABS 52)

Elizabeth (ABS 64) explained the importance of the addicted person recognizing the

problem for themselves in order to recover, stating, "You need to recognize you have a problem

before you can truly begin to move forward." All of the subjects acknowledged the problem of

addiction in society at large as worsening. Erin (ABS 52) stated, "The problem is getting bigger

and bigger."

Unhealthy behaviors. The theme of unhealthy behaviors emerged as subjects explained

their understandings of addiction. Within this theme, the codes of denial, using to cope, negative

social comparison, stigma, isolation, glamorizing/normalizing, and glorified other, emerged.

Denial was alluded to or named directly by nine of the 11 subjects. Four of the subjects

described situations in which people they knew had misused substances in order to cope with life

problems. Negative social comparisons emerged as some subjects recognized the pressures of

social comparison. Stigma emerged as a code in a number of ways. Stigmatized messages were

those that could lead to social isolation, through feelings of 'otherness', by way of percieved

judgements of others. Stigma leads to social isolation and thus makes the problem of addiction

worse. Those who are isolated withdraw from those who might offer social support.

Furthermore, those who isolate from the addicted are more likely to be discriminatory towards

the addicted (Zhou et al., 2016). Some subjects described their harsh judgments towards the

addicted, some examples of societal stigma towards the addicted emerged, and some examples of

emotional reactions such as anger towards the addicted emerged from the interviews. The code

of isolation emerged as most of the adolescents identified ways in which the addicted becomes,

or remains, isolated. Some subjects made connections between isolation and addiction. Several

subjects commented on the process whereby individuals, or society at large, act to glamorize or

normalize substance misuse. Several pointed to social media as a tool for glamorization and

normalization. The last code, of the glorified other, emerged within the theme of unhealthy

behaviors as subjects identified notorious individuals who encouraged substance misuse through

social media. What follows are examples of coded perceptions of unhealthy behaviors that

contribute to substance misuse.

   Denial. The quotes below speak to the "rejection of truth," known as denial, a

characteristic of addiction (Rinn et al., 2002). The first few describe denial as a characteristic of

addiction at large. For example, Kodi (ABS 50) stated, "[Addicted people] try to hide their habit."

Of particular interest in these next few quotes is the notion that denial is marked by an unknowing on the part of the addicted. The inference is that if an addicted person does not know, they are not responsible for knowing.

- Usually they don't know there's a problem – it's like they're in their own little Zen bubble, not realizing how much money they're spending [on their addiction]. – Eric (ABS 52)

- In most cases a lot of people don't realize they have a problem. – Rebecca (ABS 53)

- At first they don't know, then they hit rock bottom. – Kelly (ABS 61)

Elizabeth (ABS 64) and Eric (ABS 52) explain the process of denial with a bit more specificity. Elizabeth describes confrontation and denial and Eric describes the cycle of denial and addiction.

- A telltale sign of addiction is denial. When you tell them they have a problem and they refuse to see it and keep doing what they're doing in an excessive amount and it effects their life negatively. – Elizabeth (ABS 64)

- So many people with addiction, it gets to the point where they get out of hand and there's denial and it all feeds back into the addiction. They never want to admit it. It's a defense mechanism. – Eric (ABS 52)

These next quotes show that the subject has witnessed the denial of the addicted.

- Yeah I'd say she's addicted. I believe she's an alcoholic. She doesn't think so. – Erin (ABS 52)

- She keeps saying it's gonna get better and it never does. – Mary (ABS 40)

- They wouldn't admit to anyone and it was just hard for them to admit that [they were addicted]. – Erin (ABS 52)

These next quotes speak to eliminating denial as an important step in treating addiction.

- I think the first step is denial because I have asked this person, "Are you addicted?," because this person is always drinking. They're always drunk and they just end up getting mad. So if someone is to ask if they need help, the first step to knowing if they are ready for help is if they want help. – Erin (ABS 52)

- Every person in addiction goes through a stage of denial and the first step is admitting they have a problem and most people don't want to admit that. – Elizabeth (ABS 64)

- I just think they have to recognize they have a problem before they can stop. I think by admitting it to themselves or recognizing that they're getting bad - if they recognize it early - then they can stop. – Erin (ABS 52)

Using to cope. The theme of unhealthy behaviors yielded a code of using to cope. Some of the subjects observed that there may be reasons for the addicted person's misuse of substances, specifically that they use substances to avoid the difficulties of life. Some of the subjects referred to addictive behaviors as a method to help the addicted cope with life's difficulties. Four of the subjects described situations in which people they knew had misused substances in order to cope with life problems. The first two make the most direct connection between addictive behaviors and coping. Kodi (ABS 50) and Beatrix (ABS 62) used the word cope.

- Mom's not around all that often. She travels for work and [my friend] stays home so I think all these things, like she's using drugs and alcohol to cope. – Beatrix (ABS 62)

- She does self-harm—bruising and cutting herself—as a way to cope. – Kodi (ABS 50)

Eric (ABS 52) introduced the notion that others who have not become addicted cannot empathize with the need to use addictive behaviors to cope, stating, "Some people use alcohol as a way to have fun or to feel better. For some, it's their solution – it's a twisted solution – but it's something that if you're never addicted to anything you can't understand." Erin (ABS 52) described substance misuse as a way to cope with a bleak future; "People that have more going on with their life tend to focus more on that then people who don't see a future for themselves."

Negative social comparison. Negative social comparison emerged as a code within the theme of unhealthy behaviors, as some subjects recognized the pressures of social comparison as potentially threatening to the addicted, or to those vulnerable to addiction. The following quotes demonstrate negative social comparison, or the comparing one's self to others and feeling a low mood and suffering a loss of self-esteem as a result (Seabrook et al., 2016).

- I could understand why they wouldn't want to get help because, who would want to admit that they're doing drugs, but getting help is the best. – Erin (ABS 52)
- As teenagers they kind of like to share everything they do and they think it makes them cooler. – Elizabeth (ABS 64)

Stigma. stigma emerged as a code within the theme of unhealthy behaviors in a number of ways. Some subjects described their own negative thoughts towards the addicted. Some also gave their thoughts on the unhealthy effects of societal stigma towards the addicted. Lastly, some subjects offered examples of their own emotional reactions, such as anger towards the addicted. The following quotes can be seen to reflect the stigma of addiction, showing the subjects' own negative thoughts towards the addicted.

- People who don't see a future for themselves just sit on their couch and then get bored and deicide to do drug.s – Erin (ABS 52)

- I thought it was like rude [to bring alcohol to a party in a juice bottle]. It wasn't the right environment. It made the person look really bad. – Erin (ABS 52)

- There's a lot of addicted people I know and they didn't grow up in the kind of lifestyle – they just brought it on themselves. – Erin (ABS 52)

- If you go up to someone on heroin or crack you know they're different. They get angry. – Erin (ABS 52)

Multiple quotes describe working with someone who has an addiction. David (ABS 47), Kelly (ABS 61), Rebecca (ABS 53), Sam (ABS 50), Elizabeth (ABS 64), and Beatrix (ABS 62) voiced sentiments similar to Erin's, below, that addicts are unreliable (though Elizabeth and Beatrix qualified their responses to say that if they weren't currently misusing substances then they'd work with an addict).

- One might not want to work with an addict because they might want to rub off on them. – Kodi (ABS 50)

- I would definitely not trust [an addicted person] with money or anything important. I think they're compulsive liars. I think they're stealers. – Erin (ABS 52)

- [Addicts] are unreliable. They're more committed to their addiction – Erin (ABS 52)

- [On working with addicts] You never know they might be a loose cannon, still addicted, can freak out and would be scary or even bipolar you never know when they'll freak out. – Sam (ABS 50)

- Worked at an amusement park and this guy got really high before his shift. He couldn't do his work so we had to. – Eric (ABS 52)

- Many addicts don't have that much willpower. That's why they're addicts. – David (ABS 47)

The following quotes portray the judgment that some subjects made about how substance misusers perceive substance misuse as socially appealing, or cool. Elizabeth (ABS 64) and Rebecca (ABS 53) described substance misusers as percieving their misuse as cool.

- He was trying in his own way to make addiction into an aesthetic. (social media post of drug paraphernalia). – Eric (ABS 52)

- I really think that's the reason they started using [marijuana] because they thought it was cool. – Elizabeth (ABS 64)

- Kids now drink and smoke to fit in; it's more about ego. – Erin (ABS 52)

It may be inferred from these next several quotes that people have been lumped into groups of good-or-bad, substance misusers or not. The first two quotes from Rebecca (ABS 53) seem to reflect an understanding that this practice of categorizing people is not helpful.

- Most of the people that I follow [on social media] are, I don't want to say, "good kids," but in sense of addiction they're good kids. – Rebecca (ABS 53)

- People would always say. 'yeah that's the group that does that [misuses substances]. – Rebecca (ABS 53)

- We grew up in Ocean County which is like [overrun with] heroin but I have a really nice family and nobody has an addiction. – David (ABS 47)

- I don't know how a nice neighborhood like ours could have drug epidemic. – Eric (ABS 52)

In this quote, Beatrix (ABS 62) offers her thoughts on the unhealthy effects of societal stigma towards the addicted. "If someone knows that they're an addict it changes the public opinion on the establishment in general."

In the several quotes to follow, subjects demonstrate their own emotional reactions, such as anger and frustration, towards the addicted. Several used the exact phrase, "It makes me mad."

- She leaves family parties twice to go out front [to smoke]. It makes me angry. – Mary (ABS 40)

- They think it's cool. I think it's stupid. It's just perplexing. So, why do you feel the need to do this [misuse substances]. I get embarrassed for them. I don't know why anyone would post about [substance use]. – Elizabeth (ABS 64)

- It's just frustrating to see these people putting themselves at risk, especially a high schooler. Anybody below 21. – Mary (ABS 40)

- When I see all of these kids drinking and stuff it makes me mad. – Eric (ABS 52)

- [Social media posts with beer bottles] make me mad too – whenever I see anything like that it's frustrating. I just don't understand it. [Posting messages of substance misuse on social media] makes me mad because they're just hurting themselves and it's stupid – they're giving themselves a greater risk to become addicted. – Mary (ABS 40)

- When I see the pictures of all these kids drinking and stuff like that it makes me mad because they know that they're not supposed to be doing it or they know that they're putting their friends in danger. – Erin (ABS 52)

The quotes that follow seem to place blame on the addicted.

- They can vanquish their addictions. It's their decisions. It's stupid and illegal. – David (ABS 47)

- With cancer you don't have a choice but with addiction you do. – Erin (ABS 52)

- I wouldn't say it's a disease, an actual disease. – Beatrix (ABS 62)

- I'd say like it's really up to the person that is addicted to fess up and want help because not many want help. – Erin (ABS 52)

These two quotes describe how addiction is sometimes made into a joke, or minimized.

- One [post] might be a joke – as a joke – like #starbucksaddiction – as a joke. I make jokes that I'm addicted to acai bowls. – Sam (ABS 50)

This quote from Rebecca (ABS 53) implies that alcohol use is normal and drug use is abnormal: "Alcohol is more normal. You don't go out with your friends and say, 'Let's do a bunch of drugs.'"

   Isolation. The code of isolation emerged within the theme of unhealthy behaviors as most of the adolescents identified ways in which the addicted becomes, or remains, isolated. Some subjects made connections between isolation and addiction. The following reflect the isolating nature of addiction. This first quote talks about signs again, and delineates social isolation as a sign of addiction. Sam (ABS 50) stated, "Signs that someone is addicted is if they're secretive, if they keep disappearing, if they're not themselves, if they're hanging around with different people, if something bad happened in their life." These next several quotes discuss the subjects isolating themselves from the addicted.

- I keep myself away from those kinds of people [who misuse substances]. – Mary (ABS 40)

- There was a time when I let anyone follow me on Instagram – now I have an account just for my close friends. – Eric (ABS 52)

- I actually have a friend that is in a very bad situation not my friend at the moment and I know this person does drugs and I've tried to help. Like the other day I saw her and she had this weird like glaze in her eyes I could see right through her. I'm no longer friends with her. But I've tried to help. – Erin (ABS 52)

- I would know nothing about drug use. I'm kind of a really shielded kid. – David (ABS 47)

- My friends, from what they've told me, don't do drugs or alcohol. I lost contact with old friends, so I'm not sure what they're doing at this point. – Kelly (ABS 61)

These quotes draw a clearer connection to how substance misuse played a role in their isolation from those they were once connected.

- Not friends with them any more and their drug use played a factor. I would block them [people who post messages of substance misuse], completely get rid of them off of my social media. I don't want anything to be suspicious. – Rebecca (ABS 53)

- My social media is composed with people I surround myself with and I don't surround myself with people who are into drugs. – Elizabeth (ABS 64)

Glamorizing/normalizing. The theme of glamorizing/normalizing emerged within the unhealthy behaviors theme. Some subjects explained this process as a social issue. Other subjects described the process of glamorization/normalization of substance misuse as enabled through social media. The following quotes demonstrate the normalization of substance misuse and the glamorization of substance use. This first quote cuts right to the notion that social media

glamorizes substance misuse. Rebecca (ABS 53) stated, "Social media almost glorifies addiction in a way."

The next quote makes the connection between glamorization, and normalization of substance misuse. Kelly (ABS 61) stated,

Now there's built-in ads on Instagram. It sort of makes people believe it's societal norms when they aren't and it's tough to differentiate what's normal and what's not. It's something that is sort of prevalent, I guess, and it is sometimes hard to tell if sometimes it can glorify something and make it seem like it's not as bad as it is. If you're seeing an Instagram ad for something that shows people having a good time, like advertising for alcohol, and it doesn't show the after effects like drunk driving or hangovers. It glorifies the whole thing.

The following quotes give more specific evidence for how the glamorization process occurs through social media.

- [Substance misuse is] just a casual presence [on social media and TV]. There's three shows I watch and they all have like a regular use plot line and they make it seem so regular. Eric (ABS 52)

- Like the name of the alcohol would be on an Instagram hashtag. – Elizabeth (ABS 64)

These next few quotes speak more to the idea that the normalization process occurs through substance misuse.

- There is a Youtuber, when she was in high school still, she would tell stories of how she was drinking and doing drugs and she'd brush it off. – Rebecca (ABS 53)

- I think they do it on their own accord in a big group of people and it's kind of normal for them. [Media messages] give a sense of normalcy [to substance use]. – Elizabeth (ABS 64)

Glorified other. The last code of glorified other emerged from the theme of unhealthy behaviors as subjects discussed the ways in which notorious public figures encouraged substance misuse through social media. The following quotes discuss the role of high profile people in normalizing and glamorizing substance use.

- There's like celebrities, and you'll see them going to parties, and some you don't even know, and some are out partying every night, and you just know what they're doing, and to be an influential person you shouldn't be putting that out there. – Rebecca (ABS 53)

- If someone makes something look cool on social media, that person could be dealing with an addiction, and the person that saw it could think "it's cool" and not really know what that person's going through. - Eric (ABS 52)

Social learning. Social learning emerged as a theme, with six codes. These codes are: friends taken, environment, social media, testimony, social influence, and social support. Subjects have all known friends who have misused substances. By and large, they acknowledge the power of a person's environment in shaping their addictions, or preventing them from becoming addicted. The subjects also seem aware of the impact of social media as part of a person's environment. The testimony and social support codes yield evidence that the subjects have an understanding of the impact humans have on each other in the prevention, development of, or recovery from, and addiction. The theme of social learning shows the subject's understanding of the role of social learning in both the development of an addiction and recovery from addictions.

Friends taken. Continuing with the theme of social learning, the code of friends taken emerged as subjects discussed their exposure to substance misuse through their social networks.

The following quotes discuss the social exposure subjects have had to substance use. All subjects have been exposed to friends drinking alcohol. Kodi (ABS 50), Elizabeth, Rebecca (ABS 53), David (ABS 47), Erin (ABS 52), Eric (ABS 52), and Beatrix (ABS 62) acknowledged social exposure to marijuana. Some of the subjects made remarks that implied that marijuana is less serious than other substance misuse. For instance, Eric (ABS 52) said, "I'm just not that worried about pot." In this next quote, Eric (ABS 52) was more specific about his friend's marijuana use. "A few friends smoke, especially one who was pregnant and still smoked." Eric and Erin (ABS 52) acknowledged being exposed to other substances. Erin stated, "My one friend, honestly I can't even tell you all of the ones that she's done. Some of them are like pot, meth, cocaine. I know on one there was a powdered form of heroin."

Environment. Discussions of exposure to messages of addiction, and friend's use of substances, led to subject's considering the role of one's environment in shaping addiction. When discussing the role of environment on substance use, several made the connection between one's environment and addiction. The first two quotes contain causal connection between one's environment and substance use.

- Their environment is what causes them to use. – Sam (ABS 50)

- If you hang out with people who do drugs, you can be addicted. It's just what you've grown up knowing and seeing – what you've been exposed to. – Mary (ABS 40)

- It depends what you have access to – I don't think someone decides oh I'll take this drug. It's what's available to them. It depends on your environment and your upbringing more than just your physiology. – Kelly (ABS 61)

- It depends on the person [whether environment impacts addiction]. My friend who does all of this [substance misuse] has gone though a lot. If the past has anything to

do with her using drugs, it has a lot to do with it in her case. Both of her parents were

into drugs and supplied her with drugs, but for me, I've never been around that. –

Erin (ABS 52)

In this next quote, Eric (ABS 52) dives deeper into the relationship between environment

and addiction, citing specific examples to make the connection between environment and

substance misuse. Further, Eric (ABS 52) demonstrated the complexity of considering the

environment as having a mediating role in addiction, and makes the case for social change. He

stated,

> It's all about their situation of life, so like in Manahawkin, in Ocean County, there's a
> huge problem with heroin. Like one town will have a huge problem, another town will
> have no problem, some parts of world have no drug problems… Usually the lower
> income areas, it's a tragedy, some areas have horrible meth problems. We have a huge
> opiate problem. It depends on what's in the area. It's what's available. It's whatever's in
> the area is what people get affected to. That's why in our town we don't have crack
> problem…smoking is so prevalent everywhere because it's so easy to get cigarettes. It is
> a serious problem, our culture and environment needs to be addressed and then the
> addiction problems will go away.

Social media. The subjects all acknowledged social media as a regular fixture of most

teens' environments. The code of social media emerged from the social learning theme to

describe the ways in which the subjects discussed the role of social media in both addiction, and

addiction recovery and prevention. These first few quotes demonstrate the exposure adolescents

have to substance misuse on social media.

These subjects commented on seeing open substance use, misuse, or discussions of

compulsive behaviors on social media. Multiple subjects noted seeing posts about phone and

internet use.

- One girl had a tablet of acid on her mouth. One kid had needles, razors, things associated with coke. I thought, "You're really lucky no one has reported you." – Eric (ABS 52)

- I've seen something with beer or alcohol in it. – Mary (ABS 40)

- I've seen phone addiction posts. – Rebecca (ABS 53)

These subjects explored various hashtags they perceive as being related to addiction.

- #420, #lit, #happy, drugs, weed – Kodi (ABS 50)

- #drugs, #alcohol, red solo cups, a keg – Rebecca (ABS 53)

David (ABS 47) reiterated that he safeguards himself from drug culture, but he, Kodi (ABS 50), and Eric (ABS 52), acknowledge and awareness of its existence on social media.

- I would know nothing about drug use but, like, #gotcrazylastnight or #420 or #blaze. – David (ABS 47)

- Sometimes they'll post #addiction to be funny and like a picture of her eyes being red. – Kodi (ABS 50)

- I've seen #vapelife, #stonerlife, so many things related to marijuana, kids who don't know what they're talking about, they post whatever drug they're talking about. – Eric (ABS 52)

This quote from Beatrix (ABS 62) discusses hashtags that might well exemplify addiction.

> I think [social media posts] would be a lot different than you'd conceive of them, like maybe the photos would be of substances like alcohol, pot, whatever, and I think the hashtags would be along the lines of #myescape #howicope. I've never seen it before but just what alludes to it like photos of substances and the hashtags like #myescape.

> Subjects discussed social media posts from their peers that raised concerns for them.

These quotes discuss social media posts that allude to the potential for addiction to be developing, or having developed, or concerns of substance misuse.

- It doesn't jump out of me until I see it on that same person's Instagram repetitively because I mostly saw kids in my age group and some post every day and night and it becomes concerning. They post things like #wedothiseverynight #everynight #the actual name of the type of alcohol. – Beatrix (ABS 62)

- Seen pictures of drugs and people talk about that. It made me uncomfortable. Just seeing someone my age doing that makes me feel weird. – Kodi (ABS 50)

- A few I've known have done LSD and they've had pictures of them on social media. – Eric (ABS 52)

This quote from Elizabeth (ABS 64) discusses subjects' perceptions of the impact of social media on adolescents at large; "A lot of TV shows and social media show drugs and alcohol and have such an impact on how people think of that stuff." In discussing the hashtagging process, some subjects made reference to addiction on social media as well as inferences about what those hashtags might mean.

- Hashtags are also about what you like and my interests don't take me to that category other than that one guy I saw [talking about his addiction to illegal drugs]. She posted pictures of like pot and then said #howigetalong whatever – that's basically proving that she's relying on those. And I'm like you really shouldn't be doing this because I don't think you know how public this really is. You might forget who you've added. – Eric (ABS 52)

Other comments spoke to the potential for helping in the fight against addiction. David and Donna sited specific hashtags aimed at fighting addiction.

- Posts could be a cry for help, or a way for searching for other people that also have the addiction. – Kelly (ABS 61)

- I've seen #rehab, #recovering, #addiction, #recovery. – Donna (ABS 56)

- I've seen movements to end addiction. I've seen like #endaddiction in passing or #endit but never like, 'I'm addicted', like proclaiming they're addicted. – David (ABS 47)

- I've followed a page for people recovering. – Donna (ABS 56)

Beatrix (ABS 62) reported never having seen posts that speak directly of addiction, stating, "I don't think anyone would post directly about addiction."

However, the majority of these subjects have had their awareness raised by posts related to addiction. The following two quotes mention being personally impacted by social media posts related to addiction.

- Seeing the reoccurring posts makes you realize how much they go through. – Eric (ABS 52)

- There was an ex-convict [on YouTube]. He wanted people to understand that there's days when he wants to do drugs again and he fights it everyday. There are posts about if it's an addiction or a choice – I like seeing both sides. It's not a black or white issue…. Our area I never knew had a problem until police reports were posted on Facebook. There's a lot that can help you out on social media only since 2011 and the way they've changed makes it easier to discuss any sort of issue. – Eric (ABS 52)

- [Posts on social media] kind of made me realize that [addiction] could start early. – Elizabeth (ABS 64)

- People are seeing these posts. Them seeing reoccurring ones, too, could make them realize it's happening too – like by raising awareness, open people's eyes. – Kodi (ABS 50)

Eric (ABS 52) also mirrored Kodi's sentiments about posts raising awareness. The following quotes refer to the emotional reaction subjects have to seeing posts about substance misuse.

- It bothers me to see it on social media. – Mary (ABS 40)

- The pictures [on social media] make me think about it worse because I hate seeing pictures of people that I know putting themselves in danger. Social media is showing a lot of people I know overdosing and it makes me sad. It's just so much. – Erin (ABS 52)

Testimony. Within the social learning theme, and following on the topic of social media, the code of testimony emerged. Testimony is a cornerstone of nationally recognized recovery programs, including those that follow 12-step traditions. The quotes below reference the potential impact or their experience with individuals sharing testimony of addiction. These quotes explain the rationale for someone sharing their stories of addiction.

- When someone is recovering and they're open then they're proud of it. – Donna (ABS 56)

- They're sad but there's always a reason why they're posting it – posting it online is comforting. – Kodi (ABS 50)

The next quote from Beatrix (ABS 62) references a face-to-face situation

> I've been to certain seminars seeing speakers and the way they explain it is that it's like an allergy – they have a diff reaction. I took a class on social issues and had a speaker come in – he had been addicted to heroin.

These subjects discuss testimony they've seen on social media. The first one discusses witnessing an addiction unfolding through testimony and the second one describes being impacted by the testimony of a person in recovery.

- The fact that there are ex addicts who will use their social media platform and forums as an outlet to say these are my experiences, it started out as a problem but then months later it became a problem, to tell people they can do this, they can get help – it shows the story and makes you understand that there are people out there – they fall and they stumble and they've gotten back on track. – Eric (ABS 52)

- I know this one girl and she uses #roadtorecovery on her posts. She was an alcoholic and heroin user and so when she was having her baby she knew she needed to grow up so she recovered. She's a yoga instructor and is trying to help others see hope and see their future and help them through recovery. I thought it was really cool of her, really big of her to admit to herself that she had a problem. – Erin (ABS 52)

The following quotes discuss how social media could have a positive influence on others as they try to avoid addiction.

- Messages on social media could remind people that used to be addicted and make them want to go back to it, or it could show people, "Oh I don't want to go back to that life." – Kelly (ABS 61)

- It would be helpful to show [social media messages] someone who is addicted to something and show how it's taken over their entire life and they have no money and they just kind of revert to terrible things. – Elizabeth (ABS 64)

These quotes offer testimony from the subject's own perspective. Rebecca (ABS 53) and Erin (ABS 52) offered testimony about how they've experienced empathy as it pertains to addiction.

- I used to think, "Oh why don't they just stop?" and then I thought, "Well, I'm addicted to my phone. If someone said, 'Oh just stop,' I wouldn't be able to." – Rebecca (ABS 53)

- I can see how someone can get addicted. I wasn't drunk. I was just like buzzed but I could see how someone can be addicted to that feeling of being free. – Erin (ABS 52)

- When you see examples of that [on social media] in some capacity it can really scare you and make you not want to do those things. – Elizabeth (ABS 64)

- I've done perspective writing in English class. Perspective writing could influence people, because it makes somebody think. You feel for the other person. – David (ABS 47)

Social influence. The previous quotes speak to the power of testimony, demonstrating the notion of social influence nicely. The code of social influence emerged from within the theme of social learning. social influence in the coded transcripts emerged in several ways. Subjects spoke of the power of social influence generally, then more specifically on how social influence impacts substance misuse. They spoke of social influence through testimony, the importance and responsibility of social influence, changing mores as a result of social influence, and the desire to be of service through social influence of their own efforts. The following passages refer to the role of social influence in addiction, and addiction recovery and prevention. The first few quotes discuss social influence generally.

- My family unit is very strong, very stable, so as a whole, we all live close and we talk to each other so, because of that, no one fell into addiction after that [loss of a loved one]. – Beatrix (ABS 62)

- I don't want my dad to have to say, "Yeah, my daughter died" [from drugs or alcohol]. – Erin (ABS 52)

- [I haven't spoken with them] in like in a serious way. Not like telling them that I was concerned, just like small conversations where they tell me they smoked [pot]. – Elizabeth (ABS 64)

The next few quotes discuss how social influence impacts substance misuse. The first one discusses others being socially influenced to misuse substances, and the last two discuss others influencing the subjects to misuse substances.

- If you know someone who's going to a party and you see pictures online, it influences you. – Rebecca (ABS 53)

- When I did it was like not anything crazy. It wasn't like anyone told me to. It wasn't like I was alone. Everyone was doing it. It was fine in the moment. – Elizabeth (ABS 64)

- I said yes to drinking because everyone else was. – Erin (ABS 52)

The next several quotes discuss social influence through testimony. Erin (ABS 52) explains how she's been influenced by the testimony of a recovering addict. She stated, "It was really inspirational that she's taking it upon herself to help people." Sam (ABS 50), Kodi (ABS 50), and Beatrix (ABS 62) discussed how witnessing the testimony of others affected by addiction has helped them see the severity of the problem.

- If someone posts about friend dying from drugs they'll take it more seriously. It can make you realize how serious addictions are. – Sam (ABS 50)

- I can see how it's harder to stop because of how many times I see people posting about [substance misuse]. – Kodi (ABS 50)

- We had Chris Herron at our school but people that haven't seen that and don't have a relative that is addicted can be influenced by social media. – Beatrix (ABS 62)

Eric (ABS 52) discussed how social influence works through social support for those in recovery. In this quote, Eric introduces the concept of changing mindsets as a part of recovery; "You need positive influences around you [to recover from addiction] like AA or NA – where you have a group together and you recover together. Like a bubble of positivity."

Sam (ABS 50), David (ABS 47), and Kodi (ABS 50) had similar ideas on changing social mores via social influence. Sam explained it in the context of changing Marijuana laws.

> Marijuana – a lot of people smoke pot and it changed my view on it. A lot of people I know live in California and it's basically legal there, they don't see it as bad, so they just do it for whatever.

Eric discussed trying to influence others socially, stating, "She was pregnant and still smoked. I told her she's making a really bad decision. Another friend smokes once a day, maybe a second one; I told him he shouldn't do it."

In the two following quotes, Mary (ABS 40) and Rebecca (ABS 53) talked about how social influence can work to encourage addiction.

- If I [was] to lose a parent and was left on my own there's a possibility I could turn to [substance misuse] because of depression. I could turn to drugs or a bad crowd who could influence it. – Mary (ABS 40)

- A partying environment is always something to be aware of. That's where someone would be introduced to drugs or alcohol. – Rebecca (ABS 53)

Erin (ABS 52) and Beatrix (ABS 62) talked about their own wishes to be a social influence for substance misusers.

- One of my friends that I was friends sixth grade then in middle school and I see

  things that she posts and I know she's been through a lot and I've reached out to her a

  few times and she has not been accepting or open to talk about it. From what I've

  seen it makes me believe she is relying on drugs or alcohol to solve her problems for

  her. – Beatrix (ABS 62)

- If I had a friend whose never had anyone in their life and knew nothing about

  addiction and I showed them a video and the amount of people that posted on [a

  friend's] wall because of his death, then that person would be moved to be on my side

  that addiction is bad. – Erin (ABS 52)

Erin (ABS 52) followed up by explaining why other people might want to be socially

influential to someone trying to recover from addiction. She stated, "Someone might work with

an addict maybe to help them, like maybe to help them see their future capabilities – Erin." Erin

also shared some frustration about the difficulties of trying to be of positive social influence to

someone in addiction.

> My friend doesn't listen to me. It's this boy that she's with. He's 22, giving a 16-year-old
> drugs. She doesn't like to listen to me and talk about it. She gets aggravated…. There's
> nothing I can do because no one is going to listen to me, and I hope they both get help
> soon, before it's too late.

Perhaps unwittingly, Beatrix (ABS 62) offered an example of how she used her own

power of example for social influence. She stated, "I feel uncomfortable when [my friends

misuse substances] around me, and they never do, they respect that."

Social support. Social influence and social support are closely tied and interconnected.

social support is a code that emerged from the social learning theme because the subjects by and

large recognize social support as a mediating factor for addiction. This code was fruitful. The

quotes below address the need for social support in both prevention and recovery from addiction.

The word help was used 67 times during the 11 interviews. The word feel was used 65 times during the 11 interviews. The first several quotes that follow recognize generally the helpfulness of social support.

- You do need help. Dealing with addiction does have a lot to do with your own mind and body but moral support always helps. – Rebecca (ABS 53)

- You can also rely on others to give you support. – Kelly (ABS 61)

- You can have people help you come to the solution. – Eric (ABS 52)

Rebecca (ABS 53) and Mary (ABS 40) discussed the role and helpfulness of family for social support.

- It's no longer a problem. They got over it with family support. They told him to get help. He got help. I'm not sure what kind of help, but he got help. – Rebecca (ABS 53)

- Not every addict needs to go to rehab. If you have family support it doesn't need to go that far. – Mary (ABS 40)

All of the subjects acknowledged the human need for social support. Sam (ABS 50) provides an example of this, and David (ABS 47) credits social support for recovery potential. Rebecca (ABS 53) and Elizabeth lament that the actively addicted may only be missing social support in order to recover.

- I don't have anything against him [a relative] but I don't like how he's addicted because he's affecting [his daughter's] life. She needs more food, a cleaner house. She's young. [His traumatic loss] was 3 years ago and someone needs to help him. – Sam (ABS 50)

- If people have good circle of people to help them then they get over it. – David (ABS 47)

- It could be just support they need [to recover from addiction]. – Rebecca (ABS 53)

Elizabeth (ABS 64) shared Rebecca's Rebecca (ABS 53) sentiments about the need for support in recovering from addiction. She further warned that avoiding social support is a bad idea for the addicted, stating, "You can't try and cure your addiction by yourself because it's probably going to increase the chances of your relapsing later." All subjects said that most addicted people cannot stop without help .

- A lot of them can't stop without help. – Beatrix (ABS 62)

- I told her grandmother so she should be getting some help. – Erin (ABS 52)

- Sometimes it gets so bad they physically need someone to help. – Sam (ABS 50)

Erin (ABS 52) and Beatrix (ABS 62) shared that it is necessary for the addicted to want help in order to get better.

- They have to want to get help. – Erin (ABS 52)

- If it truly is something you can't control because it is so powerful, have to admit you need help from other people. You can't get through it yourself. – Beatrix (ABS 62)

Beatrix (ABS 62) explained that the addicted person needs to know they are worth helping before they can get better. She stated, "Most know they're addicts. They're aware. It's just a matter of getting them to fix it, to know that they're worth fixing, that they can do it."

Several subjects suggested that social media is a tool for social support. Kodi (ABS 50) and Sam (ABS 50) both talked about the idea of sharing feelings as a way of asking for social support. Eric continued by citing special spaces on social media for the addicted person to find social support.

- A lot of times on Instagram, instead of pictures to impress, is used more to talk about your life and your feelings and rant. – Kodi (ABS 50)

- If anyone has a problem there's bound to be thousands of forums [on social media] like AA and NA, and they're all for free so if you miss a meeting you can't miss a forum discussion. They're there forever so you can get them anytime. YouTube videos can help you deal with what you're going through. – Eric (ABS 52)

Sam (ABS 50) and Eric (ABS 52) discussed the responsibility for social support. Sam suggested those around the addicted person share some responsibility to support them and Eric lamented not being quite up to the task, suggesting he felt responsible to support his friend.

- Sometimes people can't notice as easily if someone's addicted. Some drugs make people not act different at all. Sometimes you can be completely oblivious when someone is addicted so it's better to keep a close eye on your friends. – Sam (ABS 50)

- If it is a very close friend of mine, or my family, I will help them but I don't want to bring myself down. I have tried to help people before and they can't get better. I feel like there are other people who are trained to do that, but I'm not. – Eric (ABS 52)

Several subjects offered evidence that they want to be of social support for others. The following quotes suggest these subjects understand the importance of listening as a tool to provide social support.

- Sometimes I'm like, "Why do you do it [misuse substances]?" The most common answer is that, "It makes you feel good, high, calm, - the feeling is a cool, good, feeling I can't get on a normal day." – Sam (ABS 50)

- Sometimes I say "I don't see why" [my friend misuses substances]. – Elizabeth (ABS 64)

- I try to reach out to someone like that because there's always a reason behind it. – Kodi (ABS 50)

- Because sometimes it's easy to talk to someone about their problems – you can just be there for people and I like being there for people. – Sam (ABS 50)

Kodi (ABS 50) and Eric (ABS 52) shared their thoughts on the limits of social support.

- You can have all the support around you. Your job could say, "We're not going to fire you." You could even be paid to go to treatment. But you need to put down the bottle. Your wife could take all the alcohol out of the house. But do you have what it takes to overcome this? That is the most important part. – Eric (ABS 52)

- She started going to therapy but that made it worse. She didn't like idea of telling a stranger and she worried it would get back to her parents. Therapy was not a good fit for her. – Kodi (ABS 50)

Wellness. During transcript analysis, the theme of wellness emerged. Within this theme, four codes emerged: healthy activities, help-seeking, growth/change/recovery, and healthy coping. These codes, and the theme of wellness that emerged, demonstrate that the subjects have some awareness of the healthy behaviors needed to lead a well life, free of addiction. Wellness practices included things like exercise, seeking professional help for problems, taking part in something "bigger than" oneself, practicing keeping a positive outlook on life, and seeking social support from friends and family. A healthy activity might be 'working out.' Help-seeking can include making the decision to ask for help. growth/change/recovery actions can include abstaining from substance misuse and facing problems without it, while understanding change is

a process. Healthy coping also emerged as a code within the wellness theme. Subjects shared

their thoughts on the importance of healthy coping, as well as some thoughts on what needs to

happen to change from unhealthy coping, to healthy coping. While the results in this theme were

sparser than in the themes of conception of addiction, the quotes yielded demonstrate an acute, if

simplistic, wisdom on their own.

Healthy activities. Healthy activities include quotes with suggestions on how one might

avoid or replace an addiction. The following quotes discuss healthy activities needed for

addiction prevention and recovery.

- Many people turn focus onto something else rather than a drug, like working out, like

  a more natural high rather than artificial. – David (ABS 47)

- You can start alternative things that can help begin the process [of controlling

  addiction]. – Elizabeth (ABS 64)

Help seeking. Help-seeking emerged as a code within the theme of wellness. Help-

seeking can include acknowledging the need for help and making the decision to ask for help.

These quotes discuss the healthy activity of seeking help.

- You can't rely on yourself, that's like counteractive. You are the reason you can't rely

  on yourself if you are the addict. You have to go to someone else. – Elizabeth (ABS

  64)

- A person can choose not to be addicted by seeking help from a professional and from

  family and friends. – David (ABS 47)

Growth/change/recovery. Within the wellness theme, the code of

growth/change/recovery emerged. This code yielded comments about thoughts and actions that

include, recognizing that to recover, one needs to change, acknowledging the power of

confronting problems while abstaining from substance misuse, and understanding that change is

not quick. The word overcome was used 26 times during the 11 interviews. The quotes that

follow acknowledge the power of growth and change for prevention and recovery. These first

quotes recognize addiction generally as a change. Kelly's (ABS 61) use of the word overcome

implies personal effort to bring the change. Elizabeth's use of the phrase, "you need to" implies

change.

- While it can be done [recovering alone] it's really rare because addiction is a tough

  thing to overcome. – Kelly (ABS 61)

- You need to stop relying on your addiction in order to go out and succeed in life. –

  Elizabeth (ABS 64)

These next two quotes recognize change as a process, as opposed to a quick fix.

- You can't just quit cold turkey. – David (ABS 47)

- It can't be changed with the blink of an eye or snap of a finger. – Kelly (ABS 61)

In this quote, Kelly (ABS 61) described the value of recognizing change for someone in

recovery from addiction. "A person, once they don't have the drug that they're addicted to, can

see it from a different perspective so they aren't tempted to go back." Mary (ABS 40) stated,

"They would really like to change who they are. They can certainly overcome it."

In this quote, David (ABS 47) acknowledged the challenge of working on problems

soberly, and that work is an action word that implies exertion and change. He stated, "Somebody

could be believing that when they have a bad day if they get drunk it'll wash away the problems

but in reality the only way to improve it is to work on [their problems] sober."

All of the subjects acknowledged that change with results is possible, especially as it

pertains to addiction. Most had the same motives for joining the SADD club – to help bring

about change. In this quote, Mary (ABS 40) acknowledges that the addicted do recover, stating, "You can move past it and become better." Eric (ABS 52) added to Mary's (ABS 40) sentiments by offering examples of recovery. He said, "I've known people who during part of their life they drank and smoked too much and then later they don't do as much. You can get over these issues…. My mother and father used to smoke in their late teens then they stopped smoking and never smoked anymore."

Beatrix (ABS 62), Rebecca (ABS 53), Kelly (ABS 61), and Donna (ABS 56) shared sentiments on joining the SADD club. Most subjects followed up by sharing their sentiments about working for change.

- I wanted to be a part of something that would make a change. – Kelly (ABS 61)

- I wanted to be part of something bigger; I see it as a way to try to help. – Beatrix (ABS 62)

In this next quote, Beatrix (ABS 62) spoke to the hope to be of service to someone trying to change. She said, "If someone was trying to turn themselves around, if the person is willing to change themselves, I'd love to give them the opportunity.

Healthy coping. Healthy coping emerged as a code within the wellness theme. Often coded transcripts of this code accompanied discussion of growth/change/recovery. The subjects pondered on the benefits of switching to activities that promote wellness, as well as the need to refocus attention in order to do so. The following quotes make mention of healthy coping strategies, as well as the idea that addictive behaviors can be replaced with healthy behaviors. The idea of substitution came up several times.

- You can substitute something else for [substance misuse]. They can choose that over their drug of choice because they want to get better. – Kodi (ABS 50)

- I think there's other ways [to cope with addiction]. You can start alternative things that can help begin the process of getting over your addiction. – Elizabeth (ABS 64)

- Other things can come up like hobbies that can in rare cases take the means for alcohol away. – Beatrix (ABS 62)

- Drugs and alcohol can be used as a coping method but as they learn a new coping method it can be exchanged for something better. – Kelly (ABS 61)

- Many people turn their focus onto something else rather than a drug. – David (ABS 47)

Erin (ABS 52) also speaks about refocusing one's mind. The inference from this quote is that she cited refocusing the mind as an example of a healthy coping strategy. She shared, "It's all like the state of mind and you have to be positive." Eric (ABS 52) gave an example of how someone he knows who is in recovery was able to refocus their mind. Eric suggested that taking time off from responsibilities as a healthy coping strategy, stating, "They took some mental health days just to unwind and survive." Kodi (ABS 50) also explained how a friend used healthy coping. Kodi's friend used social support to learn healthy coping strategies; "They talked to a good friend who had gone through addiction. She gave her tips on how she stopped." Like Kodi, David (ABS 47) suggested using social support as a healthy coping strategy. He stated, "They could turn to family and friends [to cope]."

Summary of Themes from Adolescent Interviews

Four themes emerged from the 11 interviews of adolescents who engage with Instagram and are members of a SADD club. These themes were: conceptions of addiction, unhealthy behaviors, social learning, and wellness. Within the theme of conceptions of addiction, 13 codes emerged, such as: confusion, choice, disease, and progression. This theme showed that the

subjects had formed perceptions of addiction in a number of ways, and in many cases they were still forming conceptions of addiction. The theme of unhealthy behaviors emerged with seven codes such as stigma and denial.

The codes within the theme of unhealthy behaviors demonstrated that adolescents have had exposure to behaviors that can contribute to addiction. Social learning emerged as a theme, with six codes such as social support, social media, and testimony. These themes showed the subject's understanding of the role of social learning in the formation of, and recovery from, an addiction. Lastly, the theme of wellness emerged, with four codes that showed the subjects are aware of healthy behaviors that can safeguard a person against addiction development or relapse. What follows is the results of triangulation of the results from both phases of this study, including the adolescent interview results, the ABS results, and the results of the addiction related hashtags found on Instagram.

Interpretation of Integrated Findings

This section describes the integrated interpretation of both phases of this mixed-methods study. The themes of conceptions of addiction, unhealthy behaviors, social learning, and wellness, will be explored through the lens of the data analyses of both the adolescent interviews, the ABS, and messages of addiction found on Instagram. Within the theme of conceptions of addiction, it is clear that adolescents are exposed to addiction by way of messages of addictive substances, addictive behaviors, and their own experiences with substances and addiction. The theme of unhealthy behaviors in both phases demonstrated that adolescents are exposed to messages of stigma, risk behaviors, and glamorizing/normalizing, as they pertain to addiction. The theme of social learning showed codes that dominated both sources, particularly the codes of influence and supportive. The results of the code of testimony in this theme bear some

discussion. The theme of wellness revealed the code of growth/change/recovery as the dominant code in the theme of wellness in both phases of this study.

Conceptions of addiction. Conceptions of addictions was a theme for both coded interviews transcripts and hashtagged data. The theme of conceptions of addiction shared the common codes of: addictive compulsions and addictive substances, confusion, choice, disease, dichotomous thinking, addiction as a learned disorder, progression, craving, temperament, recognition of the problem, and the trauma/addiction relationship (Figure 30). Most noteworthy in this theme of conceptions of addiction is that adolescents are exposed to addiction by way of messages of addictive substances, addictive behaviors, and their own experiences with substances and addiction. While both phases of this study revealed coded references to confusion, environment, and recognition of the problem, Instagram data in this theme was heavily weighted to addictive compulsions and addictive substances, whereas adolescents shared more often on other codes within this theme.
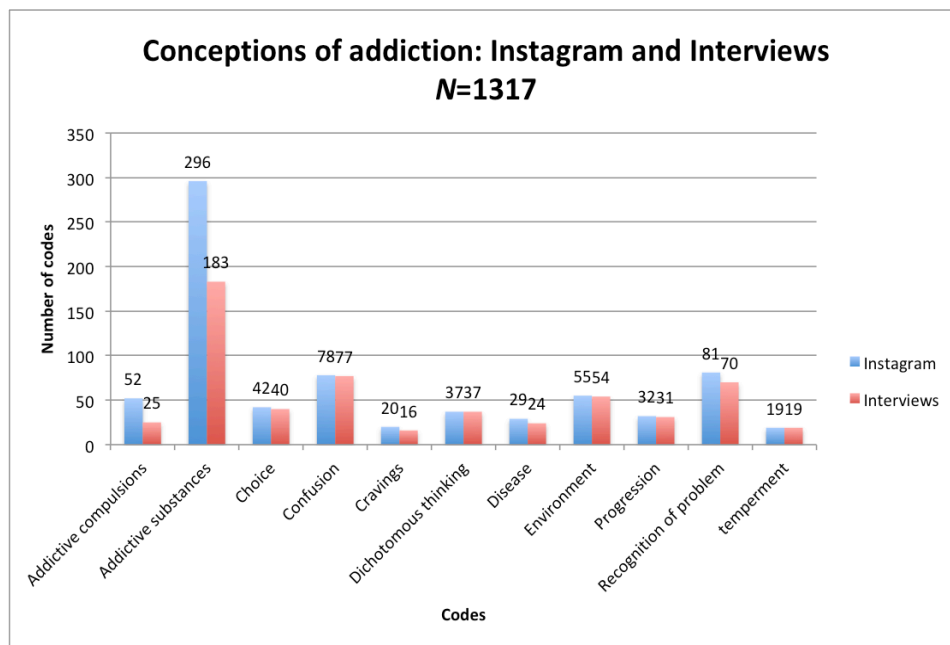

Figure 30. Conceptions of addiction codes. This figure illustrates the number of references in both coded interviews and coded Instagram content that related to "conceptions of addiction."

Addictive substances and compulsions. The theme of conceptions of addiction shares common codes that emerged from the data. The codes of addictive substances and addictive compulsions were highly prevalent in both phases of data collection within this study. Adolescents referenced addictive substances and compulsions with high frequency, and the messages of addiction to which they are exposed on social media also reference addictive compulsions and substances with high frequency. Addictive substances and compulsions were referenced 348 times in the analyzed Instagram data. Adolescents referenced addictive substances during their interviews with high frequency, a total of 208 times (25 times for addictive compulsions and 183 times for addictive substances), usually when discussing what they have taken, what their friends have taken, and when discussion their often confused conceptions of addiction, especially as it pertains to adolescent perceptions about recognizing the problem of addiction.

Confusion. The code of confusion emerged in the theme of conceptions of addiction. This code was used 77 times in the interview coding and 78 times during the Instagram coding process. One point of particular interest is the confused, or subjective nature of recognizing the problem of addiction, especially within the coded interview data.

Recognition of the problem. Both phases of this study revealed many coded references to recognition of the problem within the theme of conceptions of addiction. Recognition of the problem was used 151 times during coding process. Adolescents referenced this code 70 times and it was coded 81 times among the Instagram data. While adolescents referred to recognition of the problem with much greater frequency, the prevalence of data coded recognition of the problem demonstrates this is a focus both on Instagram and in the perceptions of adolescents interviewed.

Progression. While the theme progression emerged during both phases of data coding and analysis. It was used 32 times in the Instagram data coding process. Adolescents referred to progression 31 times.

Unhealthy behaviors. After triangulating the results of the interview and hashtag data analyses the theme of unhealthy behaviors shared common codes of denial, using to cope, social isolation, stigma, glamorizing/normalizing, negative social comparison, and glorified other (Figure 31). The coded data in the theme of unhealthy behaviors demonstrates that adolescents perceive and are exposed to messages of stigma, risk behaviors, and glamorizing/normalizing, as they pertain to addiction. It is noteworthy that Instagram messages of advertising and negative humor are highly prevalent, yet adolescents did not reference these codes with much frequency.
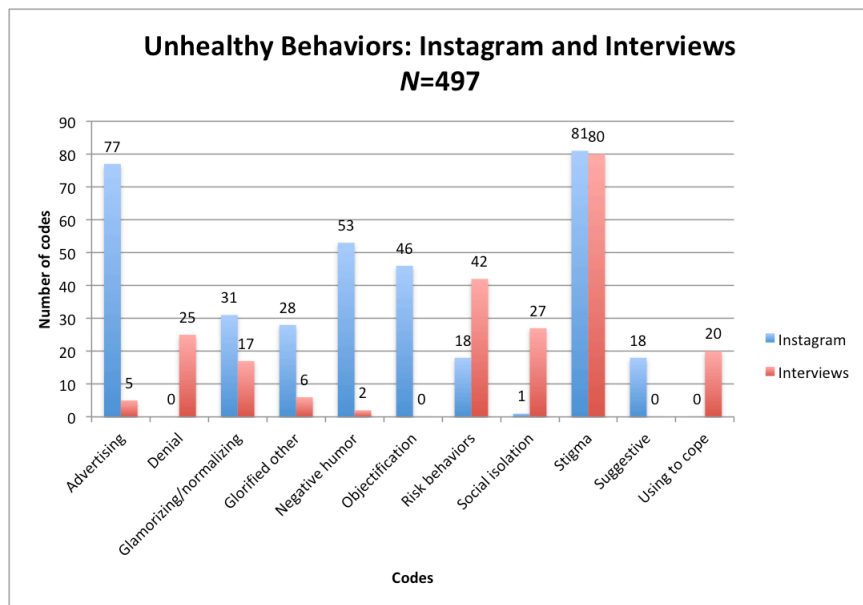

Figure 31. unhealthy behaviors codes. This figure illustrates the number of references in both coded interviews and coded Instagram content that related to unhealthy behaviors.

Stigma. Stigmatized messages of addiction appeared with high frequency during both phases of data coding. Stigma was used 80 times during interview coding and 81 times during Instagram data coding.

Advertising. Of all the codes in the theme of unhealthy behaviors, advertising was used most often during Instagram data coding, 77 times. Adolescents mentioned advertising in the interviews, but only five times.

Risk behaviors. Adolescents perceive risk behaviors and are exposed to messages of risk behaviors on Instagram. Risk behaviors were referenced 42 times in the interviews, and 18 times in the Instagram data.

Social isolation. Social isolation was referenced with unequal frequency in both phases of data coding. Interview references to social isolation numbered 27 and Instagram references numbered only one.

Glamorizing/normalizing. Collected data from addiction related messages on Instagram and within adolescent interview data pertaining to glamorization and normalization was coded with similar frequency.

Social learning. After triangulating the results of analysis of interview and hashtag data, the theme of social learning remained common (Figure 32). The codes that dominated both sources were social influence and supportive. It is noteworthy that the code of testimony was more prevalent among Instagram data, being used 78 times in the addiction related hashtags on Instagram and only 19 times during the interviews.
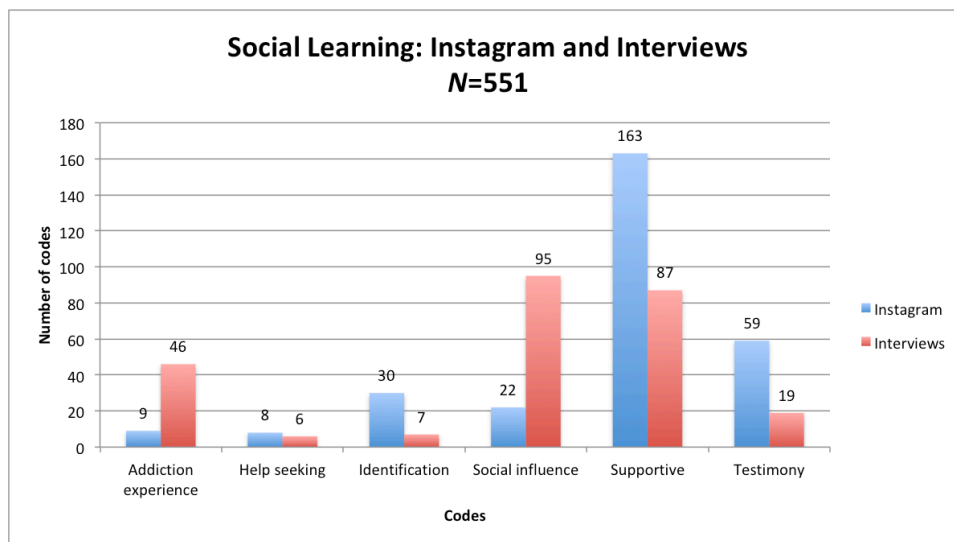
Figure 32. Social learning codes. This figure illustrates the number of references in both coded interviews and coded Instagram content that related to social support.

Social influence. The code of social influence was used with some frequency in both phases of data coding. This code was used 22 times in the Instagram data and 95 times in the interview data coding process.

Supportive. Supportive messages were prolific on both phases of data coding, but significantly more so on addiction related Instagram posts. The code of supportive was used 163 times in Instagram data. It was also used 87 times in the interview data.

Testimony. The code of testimony was used with frequency in the addiction related hashtags on Instagram (59 times). However, in the interview data, testimony was used only 19 times.

Wellness. Codes that dominated the theme of wellness in both phases of this study were growth/change/recovery and healthy activities (Figure 33). The code of healthy activities was used much more frequently on Instagram and healthy coping was used significantly more often during the interview data coding process.
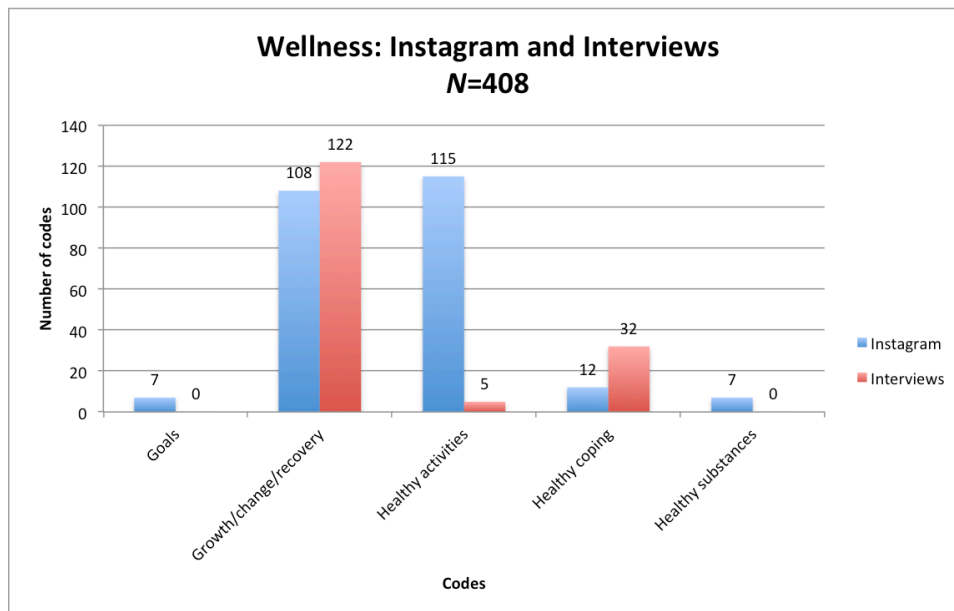
Figure 33. wellness codes. This figure illustrates the number of references in both coded interviews and coded Instagram content that related to wellness.

Growth/change/recovery. The code that dominated the theme of wellness in both phases of this study was growth/change/recovery. This code was used 108 times in the Instagram data and 122 times in the interview data.

Healthy activities. The code of healthy activities was used much more frequently on Instagram. healthy activities was used 115 times during Instagram coding and only 5 times during Interview coding.

Healthy coping. Healthy coping was used significantly more often during the interview data coding process. Healthy coping was used 12 times in the Instagram data coding and 32 times in the interviews coding.

Themes from Both Phases of Data Coding

The integrated interpretation of both phases of this mixed-methods study included the themes of conceptions of addiction, unhealthy behaviors, social learning, and wellness. Within the theme of conceptions of addiction, addictive compulsions, and addictive substances, are referenced with high frequency – most often on the Instagram posts related to addiction.

Adolescents are exposed to messages of stigma, risk behaviors, and glamorizing/normalizing, as they pertain to addiction. These codes comprised the theme of unhealthy behaviors. The theme of social learning saw codes used with high frequency in both sources of data. These codes were social influence and supportive. Within the theme of social learning, the code of testimony was used with higher frequency on Instagram than during interview coding. Lastly, in both phases of this study, the theme of wellness revealed the code of growth/change/recovery as the dominant code.

Chapter Five: Study Conclusions and Implications

This study explored adolescent perceptions of addiction and the messages of addiction they are exposed to socially though addiction related hashtagged content on Instagram. A brief summary of the issue and underlying framework serves as an introduction to the study methods and findings. Significance of the research is explained along with study conclusions, implications, and recommendations.

Study Issues and Conceptual Framework

Addictive disorders are a public health crisis (Jenson & Fraser, 2015; NIDA, 2017) threatening adolescents (Pierce et al., 1996; Siegel, 2015; Steinberg, 2014; Szalavitz, 2016, Tough, 3013). Adolescents are particularly susceptible to social influence (Casey et al., 2008; Lieberman, 2013; Siegel, 2015; Steinberg, 2014; Steinberg & Morris, 2001) and social media has given them a whole new way of communicating and learning about addiction (Hillman & Sherbino, 2015). Still, their concept of addiction is evolving and inconsistent, and their susceptibility to stigma interferes with their social relationships (Flanagan, 2013; Pickard et al., 2015; Roditis et al., 2016). To date, the researcher has not been able to find research that explores adolescent perceptions of addiction in light of social media. Further research into adolescent perceptions of addiction was needed to inform needed future targeted therapeutic interventions for adolescents exposed to social media (NIDA, 2016e). For this study, the researcher operated from the Learning Theory of Addiction because it encompasses Social Learning Theory and is a psychological and mental health model of addiction (Baker, Piper, McCarthy, Majeskie, & Fiore, 2004) that holds that individuals learn addictive disorders socio-culturally (Engeström et al., 1999; Hyman, 2005; Hyman et al., 2006).

Study Methods and Key Findings

Addiction related hashtagged posts from one of the most popular social media platforms, Instagram, were analyzed using concurrent mixed-methods. Also, 11 adolescents who use Instagram and participated in a Students Against Destructive Decisions (SADD) club were interviewed. Two methods for exploring adolescents' views – a clinical research survey of addiction beliefs (Schaler, 1995) – and open-ended follow-up questions asked to facilitate further qualitative explanations. Results of both were triangulated with Instagram analysis and supported study validity (Creswell, 2013; Edmondson & McManus, 2007).

Key findings indicated that adolescents have uncertain and at times prejudicial understandings of addiction. Notwithstanding, they perceive social media as potentially helpful in the fight against addiction if used with care, and they feel protected from negative messages of addiction by a strong circle of friends and family. Findings also indicated that addiction related posts on Instagram reflect the belief that addiction is recoverable and avoidable through social support. Interestingly, findings indicated that adolescent perceptions of addiction align with those expressed on Instagram in both healthy and unhealthy ways.

Significance of the Findings

The study's findings may be significant in adding to the scientific body of knowledge of adolescent development and addiction learning. The study's affirmations of adolescent uncertainty as to the nature of addiction, as well as stigma towards the addicted and an understanding of the importance of social support may add to the body of scientific knowledge on adolescent development. The study's findings on how adolescents perceive addiction and messages of addiction they are exposed to on Instagram offer a view of how they construct knowledge through social learning. Findings of adolescent uncertainty as to the nature of

addiction as well as the negative messages to which they are exposed on social media suggest

that the broader literature on adolescent development and learning needs to be applied to

education curricula. The fact that all adolescents interviewed expressed an understanding of the

importance of social support and the desire to support peers socially suggests a need for

adolescent peer-to-peer mentoring support. Any future mentoring support needs to be tempered

with greater understandings of addiction. The study findings on adolescent perceptions of

addiction – that addiction exists on a continuum – support the consensus in the scientific

literature on the nature of addiction. The persistent presence of Instagram as a means of

participant communication to support their relationships is an important addition to an

understanding of adolescent learning and development. The continued spread of Instagram and

other social media applications like Snapchat and Twitter that support instant communication are

likely to continue to impact adolescent social support systems. While adolescents affirmed that

Instagram could be a potentially negative source of social influence, it was also affirmed as a

supportive space for adolescent social support. It was found that Instagram was a helpful place to

find social support, especially insofar as supportive messages and banter, and the shared space to

document benchmark achievements denoting personal growth. Since the adolescents interviewed

all participate in the SADD club, it was not surprising that they would have a desire to help

others avoid destructive decisions like the ones to misuse substances. However, the longing of

many participants to better know how to support their friends and loved ones who might be

addicted speaks to a disconnect in what adolescents know about how to support those vulnerable

to addiction and a fear of causing more harm than good when trying to help.

Study Conclusions

Findings led to five conclusions. Each has specific implications for how adolescents could be better guided by the adults involved in their lives as well as implications for scholarship. Practical recommendations and suggestions for further research are provided.

Conclusion 1. Adolescents interviewed have uncertain, and at times prejudicial, understandings of addiction. While these perceptions of addiction demonstrate an awareness of it existing on a continuum and that it is amenable to change when supported by social learning, some misunderstandings of the nature of addiction are apparent as well. Adolescents are uncertain as to the addicted person's level of responsibility and power to choose to not engage in substance misuse. The overall mean ABS score was 2.99, with 3 indicating uncertainty (Schaler, 1995). Interview codes that supported this uncertainty were confusion (77), choice (42), disease (29), dichotomous thinking (37), and temperament (19) codes. Still, they have an understanding of addiction as progressive with clear benchmarks, even though they are uncertain about personal levels of responsibility and power to choose as it pertains to addiction. The code "progressive" was used 32 times in the interview data. This demonstrates that they have an understanding of addiction as existing on a continuum. The code recognition of the problem was used 81 times, meaning that they understand there are markers of addiction. When responding to the first ABS question, they agreed that a person must be forced to recognize they are addicted. This demonstrates both an understanding that addiction is recognizable and that an addicted person is not always fully self-aware.

While adolescents interviewed understand the progression of addiction and that the addicted may need help recognizing their progression of addiction, they also communicated messages of stigma toward the addicted. The code of stigma was used 81 times during the

interview transcript analysis. They also see the role of learning in wellness, especially as it pertains to addiction. Within the wellness theme, growth/change/recovery was coded 123 times and healthy coping was coded 44 times. There was minimal understanding of the role of ones environment on the learning of addiction. The ABS question about the role of environment on addiction had a mean of 3.36. This means that they were mostly uncertain about the role of environment, but there was some agreement that it played a role in addiction. The social support theme was coded 260 times, with 250 of those codes being supportive, 117 for social influence, and 78 for testimony.

Implications. The implication of this conclusion is that adolescents interviewed do not fully understand addiction and this confusion leads to stigmatized perceptions of the addicted. Even in light of confusion, they do, however, understand that help may be needed, and they can learn to spot the signs of addiction. Moreover, they understand the importance of social support in addiction, particularly the helpful nature of supportive messages and personal testimony of addiction.

Recommendations. Adolescents should learn about addiction from those in recovery, so as to recognize the markers of the continuum of addiction and to humanize substance misusers who become addicted. Understanding addiction more fully and more personally will mitigate stigma dramatically. One subject said it was helpful to witness a guest speaker who shared his experience with addiction. Another said it was helpful and inspiring to read the Facebook posts of a young woman about her recovery experiences. School curricula could also include exploration of testimony on social media through project-based learning, using #recovery and #addiction, since those were most supportive and most focused on recovery and growth.

Curriculum should include methods for recognizing bias, particularly that which may be found in messages of advertising and glamorization/normalization of substance misuse. These two codes in the theme of unhealthy behaviors occurred most often together. Adolescents should be taught that helping others is a wellness behavior that will benefit the recipients and themselves. Those who want to help others should be taught how to discern when, how, and to whom they can communicate the signs of addiction they may see in others.

Conclusion 2. Adolescents interviewed see social media as potentially helpful in the fight against addiction and feel protected from negative messages of addiction by a strong circle of friends and family. While adolescents have a negative view of social media's impact on addiction because of the pervasiveness of addictive substances and negative messages they see, they feel personally protected from the influence of those messages by strong circles of friends. They also recognize the potential for social media to afford social support, especially with regards to testimony.

Adolescents interviewed generally have a negative view of the influence of social media on addiction as it pertains to "other adolescents." Subjects discussed their exposure to addictive substances and addictive/dangerous behaviors on social media, such as by seeing "friends partying." Adolescents feel they are individually protected from negative messages on social media by their own tight social circles of exposure. They described how on social media they follow their friends who are individuals who do not share content with messages of addiction. Most subjects discussed having what they called "finstas," or Fake Insta(gram) accounts. These are separate, private accounts users make so they may post content that is only meant for close friends. They also used terms like "in my immediate circle" and said that they only follow their

close friends, who are "good kids." They added this qualifier to denote that their exposure to negative messages of addiction on social media is limited by their personal choices.

Adolescents interviewed recognize negative social influence on social media. They recognize the power and ubiquity of advertising. They also recognize their general exposure to addictive substances, as through images of "red solo cups," and "weed." The code of social influence was used 117 times in the interview data analysis and often accompanied remarks denoting negative social influence, such as when Rebecca (ABS 53) said, "If you know someone who's going to a party and you see pictures online, it influences you."

Although they saw addiction related messages as potentially harmful to others, they (especially subjects with higher ABS scores) widely acknowledged the potential for social media to be a tool for personal growth, particularly through social support afforded by others' testimony of wellness. Four subjects specifically mentioned witnessing the positive effects of social media posts that pertained to recovery. Three said they follow either hashtags related to recovery or individuals who share their recovery openly. Donna (ABS 56) said, "When someone is recovering and they're open about it then they're proud of it."

Implications. Adolescents interviewed understand the power of social influence afforded through social media. They also understand the impact of choosing company and limiting personal exposure to others who will protect them from negative influence. They surround themselves with like-minded peers and protect themselves from those making destructive decisions. Consistent with disease model thinking, research showed that adolescents with lower ABS scores were less apt to see social media as potentially dangerous.

Recommendations. Adolescents need guided practice in decision-making, especially as it pertains to social media. Just as school playgrounds, athletic fields, and lunchrooms have adults

supervising, adolescents need guidance and supervision as they make choices and interact on social media. Schools should lead the way and integrate social media curating into curricula. This integration should be supported through peer-to-peer learning. For instance, often athletic teams, clubs, and classes use social media to communicate and showcase student achievements. Adults can oversee peer leaders who manage social media accounts. These accounts can give adults ways to supervise adolescents by serving as artifacts of mediation for social learning (Engeström, 2000). In this sense, social media gives adults supporting tools and a space in which to supervise and support healthy socialization.

Conclusion 3. Addiction related posts on Instagram reflect the belief that addiction is recoverable and avoidable through social support. While addiction related posts are often unhealthy, stigmatized, and used for advertising purposes, they more often reflect a culture of social support and healthy, wellness-centered thinking and behaviors. Negative posts, or those that reflect unhealthy behaviors and stigmatized messages, are prolific on Instagram, especially depending on which hashtag is used. Advertising was coded 82 times, stigma 81 times, risk behaviors 60 times, and negative humor 55 times. The most frequently coded unhealthy messages were explicit messages of addictive substances, coded 296 times. As could be expected, these posts were more often labeled #drugs or #alcohol than #addiction or #recovery.

These negative posts were juxtaposed with the positive posts that reflected the belief that addiction is recoverable and avoidable through social support. For instance, the code of testimony was used 59 times in the Instagram data analysis. These codes represented individuals describing their wellness behaviors, or growth, change, and/or recovery. The code growth/change/recovery was used 108 times. Healthy activities, used 115 times, most often accompanied the hashtags #addiction and/or #recovery. The most frequently used code that

conferred a message that addiction is avoidable through social support was healthy activities. Comments on these posts always included social recognition for the efforts of the posting individual, such as the comment "way to go!" and the clapping emoji.

Implications. Adolescents interviewed need discernment skills as they explore social media. They are exposed to messages of addiction that span a continuum from stigmatized and unhealthy, to healthy and supportive, depending on their choices. Unhealthy exposure could leave adolescents thinking substance misuse is normal, acceptable, and even desirable, and that substances are easily obtainable. Moreover, their exposure to unhealthy and stigmatized messages could leave vulnerable adolescents thinking they are weak, immoral, or shameful, for their own substance misuse. This could lead to social isolation and prevent help-seeking behaviors (Corrigan, 2004; Folsom et al., 2005; Georgakakou-Koutsonikou & Williams, 2017; Naslund et al., 2016; Pompili et al., 2008). On the other hand, adolescent exposure to healthy and supportive messages on social media could signal to adolescents that they are growing and changing, and can choose healthy activities to replace unhealthy coping behaviors. Moreover, exposure to supportive messages on social media could communicate to them that there are others who care and understand.

Recommendations. Adolescents should be taught about media and personal biases so they may understand that motives behind messages can impact their influence. Specifically, unhealthy messages of addiction were often shared as a form of advertising. Adolescents, who understand how to spot advertisements, will be at an advantage, especially since advertising in our new age media is interwoven and ubiquitous. Knowing that advertisers and others do not always have their best interests in mind can help adolescents to discern messages. Adolescents

should be taught how to recognize, give, and receive, social support, and how to substitute for unhealthy choices with healthy ones, such as those demonstrated on Instagram.

      Conclusion 4. Adolescent perceptions of addiction align with those expressed on Instagram in both healthy and unhealthy ways. First, adolescent unhealthy perceptions of addiction aligned with those expressed on Instagram, specifically in their exposure to addictive substances, unhealthy behaviors, and negative messages on Instagram. There is a saturation of images of, and references to, addictive substances and unhealthy behaviors on Instagram, just as adolescents identified. The code addictive substance was used 296 times in both phases, distributed nearly evenly. Instagram data was coded addictive substances 113 times and the interview data was coded 183 times. The unhealthy behaviors theme was coded 224 times in the interview data and 273 times in the Instagram data. Further, adolescents identified negative messages seen on Instagram, messages that were, in fact, prevalent in the Instagram data. Adolescents had a view of Instagram as a potentially negative influence on adolescents. These messages were found on Instagram in coded messages of addictive substances (coded 113 times), negative humor (coded 53 times), advertising (coded 77 times), objectification (coded 46 times), glamorizing/normalizing (coded 31 times), and glorified others (coded 28 times). Though adolescents identified negative messages found on Instagram, they also recognized the potential of Instagram for positive influence.

      Notwithstanding the unhealthy messages that adolescents identified on social media that do in fact exist, adolescent interviews and addiction related hashtags on Instagram both yielded copious messages of growth, such as those of socially supportive messages like those coded testimony, recovery, and healthy coping substitutions. The social support theme was coded 551 times in this study, with a nearly even split between the phases. There were 291 social support

codes in the Instagram data and 260 in the interview data. Within that theme of social support, supportive messages were used widely. Instagram data was coded 163 times with supportive and the interviews were coded supportive 87 times. testimony was another code in the social support theme that was used in both phases (78 overall), though much more frequently in the Instagram data analysis (59 times). growth/change/recovery was coded widely as well; interview data was coded growth/change/recovery 122 times and the Instagram data 108 times. healthy coping and substitution strategies were coded in both phases, especially on Instagram posts hashtagged #addiction and #recovery, where the code healthy activities was used 115 times.

Implications. Adolescents interviewed have a clear and insightful understanding of the nature of social media as it pertains to learning and addiction. They are exposed to potentially harmful messages as well as potentially beneficial messages as they pertain to addiction. The inundation of references to substances on Instagram could have a negative influence on adolescents. Conversely, their potential exposure to positive messages is clear, as well. Messages of growth are needed for wellness and could have a positive influence on adolescents.

Recommendations. Adolescents need to be able to learn ways to protect themselves from messages that could harm them and should be guided as they learn while navigating social media.

Conclusion 5. Beliefs of addiction expressed by adolescents interviewed and on Instagram reflect recent findings in the scientific literature on the nature of addiction, stigma, social support, and wellness. Adolescent understandings of the nature of addiction are mirrored in the scientific literature on addiction (Barnett, Hall, Fry, Dilkes-Frayne, & Carter, 2017). Scientists do not yet agree as to the nature of addiction, especially as it pertains to personal responsibility (Barry et al., 2014; Hammer et al., 2013; Maté, 2010; Pickard et al., 2015; NIDA,

2016c). Social stigma is harmful to the addicted because suffering from addiction becomes judged as a moral issue that makes the addicted feel shame and social isolation (Barry et al., 2014; Corrigan et al., 2009; Crocker & Major, 1989; Thackery & Harris, 2003). stigma was a code (used 81 times), which emerged within the unhealthy behaviors theme. Messages coded with dichotomous thinking (37), glamorizing/normalizing, glorified other (34), negative humor (55), objectification (46), suggestive (18) could lead to stigma as well, by promoting negative social comparison (Feinstein et al., 2013). Stigma results in feelings of shame, hopelessness, and helplessness, and puts people at risk of addiction through social isolation that serves as a barrier to help-seeking (Corrigan, 2004; Folsom et al., 2005; Georgakakou-Koutsonikou & Williams, 2017; Naslund et al., 2016; Pompili et al., 2008). Social learning thrives on social support but messages of stigma can lead to social isolation, and this can lead to addictions (Corrigan, 2004; Folsom et al., 2005; Naslund et al., 2016; Pompili et al., 2008). In these ways, the scientific literature on stigma was reflected by adolescents and on Instagram.

Though research has not yet uncovered enough about how Instagram and other social media enables adolescents to engage with social connections and in social networks to garner social support and learn socially (Singleton et al., 2016), current scientific literature on social support and wellness through personal growth is strengthened by the adolescent perceptions shared during interviews, and on Instagram. Social support can be seen in the codes of supportive (250), social influence (117), identification (37), testimony (78), and help seeking (14). We can infer that Instagram posts sharing growth/change/recovery (230), healthy activities (120), and healthy coping (44), demonstrate social support because the posts are shared. The code of growth/change/recovery (230), and the progressive code (32) represented wellness behaviors and thinking. Per the updated DSM-5, the scientific community acknowledges

addiction as existing on a continuum, no longer viewed as a dichotomy between *abuse* and *dependence*, as it was in earlier DSMs (APA, 2013; NIDA, 2016c). When communicated through social media, the wellness actions discussed above are also reflected in scientific literature on communities of practice, such as those formed for recovery purposes. These communities are theoretically grounded in social learning (Lave & Wenger, 1991; Looi et al., 2008).

Implications. The findings in this study may strengthen the scientific body of knowledge on growth mindset, wellness, and addiction prevention and recovery. This is important because adolescents experience more negative reactions to social adversity like stigmatized shunning if they are of a fixed mindset (Yeager et al., 2014). Those with a growth mindset, who understand addiction as progressive and learned, are better equipped for wellness. Networking around strengths, such as was documented on social media and described by adolescents, may increase social support (Lopez & Louis, 2009).

Recommendations. Adolescents are submerged in a world of social media and need to learn how to harness it for their own benefit. Social media is a relatively new development that has brought potential for danger and benefit, depending on how it is used (Health, 2016). The invention of the automobile brought new rules for adolescents and school interventions to support healthy driving habits. Social media needs to be viewed this way, as a tool that can be harnessed and used with safe measures. Social media could be used in ways that pose dangers to adolescents. But it can also be used to enhance the social lives of adolescents, if used properly. Adolescents need social support to thrive (Siedlecki, Salthouse, Oishi, & Jeswani, 2014). The four major dimensions that support a life in recovery include participation in social networks for social support (Chiu et al., 2010; SAMHSA, 2014). Adolescents need to be supported as they

learn how to engage in social networks in their search for social support. Schools should lead the way in teaching adolescents how to utilize social media for social support, while eschewing that content which may be harmful.

Limitations and Study Internal Validity

This study involved two sources of data—adolescent interviews and addiction related Instagram posts—in order to explore how adolescents perceive addiction and the messages of addiction they are exposed to on social media. Hashtag data was limited to four hashtags: #addiction, #recovery, #drugs, and #alcohol. Other hashtags and other social media tools are not represented. For the interview data, this study involved a small number of adolescent participants. Therefore, its findings cannot be assumed to be representative of other adolescents. A self-selection bias exists in the very nature of the SADD club, whereby adolescents elect to participate in this club geared towards avoiding destructive decisions. Membership in this club is not mandatory at any level of schooling. The small number of participants, from the same school district in New Jersey, also means that adolescents from other states and regions are not represented. The findings are also limited in their applicability by a lack of gender and ethnic representation, since there were no African-American or Hispanic adolescents in the study, while they make up 13% and 16% of the population, respectively.

This study, though limited to a snapshot of hashtags and a small group of adolescents, does provide significant value. It offers clear evidence of adolescent perceptions and the messages of addiction to which they are exposed on social media. Rigorous study procedures, consistent with scientific literature, were used to ensure internal study validity. Two sources of data were used to explore the phenomenon from different perspectives. The content analysis of Instagram hashtags related to addiction data was rigorous and involved multiple iterations as

well as peer reviews to ensure a reliable interpretation process. All interviews were conducted in a 1-week time frame to reduce the threat of history or subject maturation and the thematic analysis process of the interview transcripts followed a similar process as used for the content analysis of Instagram posts. The mixing of data findings enabled triangulation and supported study validity.

Suggestions for Further Research

Adolescents are social beings who learn socioculturally from others and the world around them (Winters et al., 2011). Social learning theory needs to be strengthened by studies of social media, especially, so we can understand how to help adolescents develop healthy well-being. Future research should focus on curricular interventions for adolescents submerged in a world of social media. The curricular interventions suggested above involve topics not usually contained in secondary school curricula. Therefore, they should be created and improved using design-based research because it allows for evidence-based improvement.

Impact on the Researcher

> Together, we can do what none of us could accomplish alone. ("Alcoholics Anonymous: Information on Alcoholics Anonymous," n.d.)

The findings of this study caused the researcher to reflect on how adolescent perceptions matched and differed from her perceptions of addiction. The researcher identified with all participants at one moment or another, but was surprised at how eager each was to help others to avoid addiction. Having come to believe recovery was made possible through positive social support that was hard to come by, and learn, for the researcher, she lamented social and education structures she deemed as impediments to social support. The researcher is concerned about inequities of social access that are not only reinforced by, but are created through the public school setting in the name of ability grouping.

The researcher reflected on the impact of ability grouping on the subjects in this study, only one of who had taken what is known as a *basic* class (basic or *essential* classes are currently being phased out of the researcher's district, transitioning from four levels to three subject levels). Most of the other study subjects were enrolled in what are considered to be *honors level* or *Advanced Placement* classes. The leveling that occurs in public school, sometimes referred to as *tracking*, surrounds some adolescents with large numbers of goal oriented and academically minded peers, while others are surrounded by a majority of students who struggle academically, often with behavioral problems such as poor concentration and impulse control difficulties. In this system of ability grouping, many adolescents as young as 12, are shielded from other adolescent populations. Moreover, expectations for *lower level* classes are lowered unfairly (Ansalone, 2001). This is an unnecessary deprivation of access to rigor and positive social influences, in the mind of the researcher, and a likely contributor to substance misuse in communities at large.

The researcher reflected on an ethnographic study she conducted during her time at Penn that concluded that the practice of tracking, or ability grouping, makes problem-based and student-centered learning less likely and less fruitful. Ability grouping began in an era of instructionist curricula, whereby the job of the instructor was to impart knowledge to passive students. In this *factory model* environment, the teacher was the primary focus and the goal of curricula was learning to memorize information and follow instructions, a skill suited for a factory environment (Huntington, 1993). This pedagogical approach is in opposition to problem-based learning, which helps students develop skills needed for wellness and future success, such as problem solving, and conflict resolution (Yalcin, Karahan, Karadenizli, & Sahin, 2006). In the

learning environment organized by ability grouping, there is ostensibly less need for learners to

seek help – because they are all on the *same level*.

The researcher reflected on her experiences in social support recovery groups that are

said to represent a wide variety of people from all walks of life, or *from jail to Yale*. In these

groups, the researcher has found that at any given meeting, there is another who has gone

through the same problem she presently needed to understand. These reflections left the

researcher to believe that the subjects of this study would be strong mentors, but because of

ability grouping, they may not have naturally occurring access to vulnerable adolescents and

shared problems to solve. These reflections added to the attraction of social media as an area of

interest for the researcher -- there is no ability grouping on social media platforms. The

researcher found both concern about negative social influences afforded through social media

and hope in the accessibility of social support afforded through web-based communication

technologies. Notwithstanding, while carrying out this study, the researcher had reason to reflect

on secondary education pedagogy, particularly the glaring lack of social media within formalized

secondary education pedagogy.

Closing Thoughts

> The importance of the positive people, places, and things to my recovery, as well as the
> discipline required to be in contact with them, is so obvious to me. ("People, Places, and
> Things | AA Grapevine," n.d.)

This study shows that the adolescents interviewed are exposed to messages of

addiction—good and bad—on social media. They are uncertain about what addiction is, and how

to help others avoid addiction, but they do want to help. They understand that social support is

crucial but they are uncertain how to be of support to others, especially since they often do not

have access to those they might help. Conversations about who is responsible for addiction—the

self through choices, according to the free-will model, or the self through physical make-up, if the disease model—are not helpful because they focus on the individual and neglect the impact of learning through sociocultural influence. Approaching addiction from a learning perspective points forward, to a shared solution.

New social media tools and changing American lifestyles need new approaches. The process of learning to avoid substance misuse is a social one, shaped by learning. Adolescent learning is now influenced by social media use that is largely unsupervised. With parents working more hours than in generations past, adolescents have been largely left to their own devices (Solberg, 2015). They need structure and guidance that they are not and always getting. Schools and government leadership are best suited to lead this needed change. This will not be an easy, or inexpensive fix but we can pay now, or pay later, through rising insurance and health care costs and loss of productivity, institutional costs, among the myriad other social costs incurred by substance misuse. Addiction poses such an imminent threat to our adolescent population that a pedagogical sea change is needed. The researcher recommends school and government leadership use evidence based policies to inform decisions. Iceland has led the way for other countries (Sigfásdáttir, Thorlindsson, Kristjánsson, Roe, & Allegrante, 2009). Their model, with proven results at reducing adolescent destructive decisions, is based on scientific evidence, and is supported politically and in communities. It includes a parental pledge whereby parents agree to rules for their children's behavior such as keeping a curfew and not letting their kids have alcohol. Adolescents should have rules for social media use. *Iceland's* model also includes keeping kids occupied after school with the help of a $500 voucher for after-school programs. *Iceland's* model should be examined for use on a regional level in the United States.

Schools are best suited to implement needed changes. Schools have proven responsive to deadly threats facing adolescents, but yet have lagged behind with prevention measures for the deadliest threat adolescents face – addiction. Just as schools have had to adjust their thinking on school security, and take steps like gathering evidence to design, implement, and improve student safety drills, schools need to use evidence-based innovations to inform social learning practices to mitigate the dangers of substance misuse. The chances of a student dying from addiction are drastically higher (NIDA, 2017) than from a school shooting (Cornell, 2017). In light of threats to the well-being of adolescents, we need to adjust our thinking on adolescent social well-being and change practices to protect against the threat of substance misuse.

Adolescents need to be included in the design and implementation of these new interventions. Properly learned socialization could protect against the ravages of addiction. Adolescents such as the subjects from this study typify those who are nearly ready and able to serve as peer leaders. However, they do not yet have the knowledge, skills, or infrastructure, to properly support vulnerable peers. The study subjects' frustration about peers making bad choices was palpable. Multiple subjects said "it makes me mad" to see kids misusing substances and sharing them on social media. Without further help and access, this frustration expressed as stigma will serve as a barrier to peer-to-peer support. While every parent wants their child to be shielded from negative influences, this shielding filters into society and prevents the vulnerable from exposure to positive influences, and has a compounding effect.

Every one of these adolescents showed strength of character and resolve regarding avoiding substance misuse that could prove to be a helpful influence for vulnerable populations. From what the learning science community knows about how people learn best—from a More Knowing Other who can help learners discover what they need to know in the space between

themselves and the learner (through the zone of proximal development (Vygotsky, 1978) —we can conclude that with adult support, adolescents helping other adolescents is the most powerful tool in our defense against the ravages of our addiction epidemic. As it stands now, however, adolescents are to a great extent wandering into the verdant wilderness of social media, left to fend for themselves.

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APPENDIX A

Addiction Belief Scale (ABS)

(A1) Most addicts don't know they have a problem and must be forced to recognize they are addicts. [Disease model]

(A2) Addicts cannot control themselves when they drink or take drugs. [Disease model]

(A3) The only solution to drug addiction and/or alcoholism is treatment. [Disease model]

(A4) The best way to overcome addiction is by relying on your own willpower. [Free-will model]

(A5) Addiction is an all-or-nothing disease: A person cannot be a temporary drug addict with a mild drinking or drug problem. [Disease model]

(A6) People can stop relying on drugs or alcohol as they develop new ways to deal with life. [Free-will model]

(A7) Addiction has more to do with the environments people live in than the drugs they are addicted to. [Free-will model]

(A8) People often outgrow drug and alcohol addiction. [Free-will model]

(A9) The most important step in overcoming an addiction is to acknowledge that you are powerless and can't control it. [Disease model]

(A10) Abstinence is the only way to control alcoholism/drug addiction. [Disease model]

(A11) Physiology, not psychology, determines whether one drinker will become addicted to alcohol and another will not. [Disease model]

(A12) Alcoholics and drug addicts can learn to moderate their drinking or cut down on their drug use. [Free-will model]

(A13) People become addicted to drugs/alcohol when life is going badly for them. [Free-will model]

(A14) The fact that alcoholism runs in families means that it is a genetic disease. [Disease model]

(A15) You have to rely on yourself to overcome an addiction such as alcoholism. [Free-will model]

(A16) Drug addicts and alcoholics can find their own ways out of addiction, without outside help, given the opportunity. [Free-will model]

(A17) People who are drug addicted can never outgrow addiction and are always in danger of relapsing. [Disease model]

(A18) Drug addiction is a way of life people rely on to cope with the world. [Free-will model]

Subjects will express the extent to which they agree or disagree with each statement along a 5-point Likert scale ranging from "strongly disagree," "disagree," and "uncertain" to "agree" and "strongly agree." The stronger the belief in a disease-model item, the higher the score for that item. The stronger the belief in a free-will item, the lower the score for that item.

APPENDIX B

Students Against Destructive Decisions Interview Protocol

Times of Interview:

Dates of Interview:

Method of Interview:

Interviewer:

Interviewee Identity Code:

Current Age of Interviewee:

Current Grade Level of Interviewee:

Interviewer opening narrative: Thanks for agreeing to be a part of this study of Adolescent

Perceptions of Addiction and Instagram hashtags related to addiction. This interview will take no

more than one hour of your time, to be completed in one segment. During this interview, I will

ask you questions about your experience with Instagram hashtags related to addiction and your

perceptions of addiction, and I ask that you be as open and candid as possible. All of your

responses will remain strictly confidential and will only be used for the purposes of completing

this study. You previously signed a consent form that laid out all of your rights under this study

and any possible risks of the study. Would you like me to review any of the content from that

consent form for you?

(If yes, review requested items. If no, continue)

Before we begin the interview, I would like to review the definitions of terminology that I'm

using for this study.

For the purposes of this interview:

- Addiction is the persistent compulsive use of a substance in light of negative consequences incurred by its use.

- A hashtag (#) is a tag found on Instagram that helps users find photographs and each other.

Do you have any questions about these terms?

(If yes, address questions. If no, continue)

I am going to read 18 statements to you and ask you to express the extent to which you agree or disagree with each statement along a scale ranging from "strongly disagree," "disagree," and "uncertain" to "agree" and "strongly agree."

(A1) Most addicts don't know they have a problem and must be forced to recognize they are addicts.

(A2) Addicts cannot control themselves when they drink or take drugs.

(A3) The only solution to drug addiction and/or alcoholism is treatment.

(A4) The best way to overcome addiction is by relying on your own willpower.

(A5) Addiction is an all-or-nothing disease: A person cannot be a temporary drug addict with a mild drinking or drug problem.

(A6) People can stop relying on drugs or alcohol as they develop new ways to deal with life.

(A7) Addiction has more to do with the environments people live in than the drugs they are addicted to.

(A8) People often outgrow drug and alcohol addiction.

(A9) The most important step in overcoming an addiction is to acknowledge that you are powerless and can't control it.

(A10) Abstinence is the only way to control alcoholism/drug addiction.

(A11) Physiology, not psychology, determines whether one drinker will become addicted to alcohol and another will not.

(A12) Alcoholics and drug addicts can learn to moderate their drinking or cut down on their drug use.

(A13) People become addicted to drugs/alcohol when life is going badly for them.

(A14) The fact that alcoholism runs in families means that it is a genetic disease.

(A15) You have to rely on yourself to overcome an addiction such as alcoholism.

(A16) Drug addicts and alcoholics can find their own ways out of addiction, without outside help, given the opportunity.

(A17) People who are drug addicted can never outgrow addiction and are always in danger of relapsing.

(A18) Drug addiction is a way of life people rely on to cope with the world.

Interview Questions

1. What prompted you to join SADD?

2. What is your definition of addiction?

3. Is addiction a choice, or a disease, or something else?

4. What is the worst form of addiction in your eyes?

5. What substances pose the greatest threat of addiction?

6. What substances have you taken?

7. What substances have your friends taken?

8. Do you know anyone with an addiction?

9. Have you experienced a tragic event in the past?

10. Would you want to work with someone who suffers from addiction?

11. Can you describe a visual image that one might use with hashtags related to addiction on Instagram?

12. Has your understanding of addiction been influenced by social media?

13. Have you seen hashtags related to addiction used on Instagram?

    a. If so, can you describe how hashtags related to addiction were portrayed on Instagram?

    b. Can you explain what that means to you?

APPENDIX C

Pepperdine University GPS-IRB Approval

PEPPERDINE

NOTICE OF APPROVAL FOR HUMAN RESEARCH

Date: June 23, 2017

Protocol Investigator Name: Colleen Brazill-Murray

Protocol #: 16-10-410

Project Title: ADOLESCENT PERCEPTIONS OF ADDICTION: A MIXED METHODS EXPLORATION OF INSTAGRAM HASHTAGS AND ADOLESCENT INTERVIEWS

School: Graduate School of Education and Psychology

Dear Colleen Brazill-Murray:

Thank you for submitting your application for expedited review to Pepperdine University's Institutional Review Board (IRB). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. As the nature of the research met the requirements for expedited review under provision Title 45 CFR 46.110 of the federal Protection of Human Subjects Act, the IRB conducted a formal, but expedited, review of your application materials.

Based upon review, your IRB application has been approved. The IRB approval begins today June 23, 2017, and expires on June 22, 2018.

Your final consent form has been stamped by the IRB to indicate the expiration date of study approval. You can only use copies of the consent that have been stamped with the IRB expiration date to obtain consent from your participants.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Please be aware that changes to your protocol may prevent the research from qualifying for expedited review and will require a submission of a new IRB application or other materials to the IRB. If contact with subjects will extend beyond June 22, 2018, a continuing review must be submitted at least one month prior to the expiration date of study approval to avoid a lapse in approval.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at community.pepperdine.edu/irb.

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this

Based upon review, your IRB application has been approved. The IRB approval begins today June 23, 2017, and expires on June 22, 2018.

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Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this

PEPPERDINE

Pepperdine University
24255 Pacific Coast Highway
Malibu, CA 90263
TEL: 310-506-4000

scholarly pursuit.

Sincerely,

Judy Ho, Ph.D., IRB Chair

cc: Dr. Lee Kats, Vice Provost for Research and Strategic Initiatives

Mr. Brett Leach, Regulatory Affairs Specialist

APPENDIX D

Common Codebook with Descriptions

Conceptions of Addiction Theme

Addictive compulsions

Actions that do not include substances but have been documented to be addictive for some. Includes excessive social media use, bulimia, fasting, self-mutilation

Characterized in DSM-5 as IAD Internet Addiction Disorder. Preoccupation with internet and media. Inability to control use. Examples include hashtagged photos with #internetaddiction #socialmediaaddiction or references of an inability to avoid social media

May include references to illegal substance use such as syringes, pills, using prescribed medicines against medical advice

Examples may include the hashtag #foodaddiction #compulsiveeating #foodaddict and images such as a person eating large quantities of food or before and after photos demonstrating an improvement in physical appearance

Addictive substances

Substances that have been documented to be addictive for some. Examples include caffeinated drinks, alcohol, cocaine, Marijuana, LSD, methamphetamine, foods with sugar and flour as primary ingredients

Both illegal and legal drugs shown or referenced with or without words or hashtags, such as: marijuana, words such as pot, hash, LSD, drugs, oxy, Percocet, weed, References may include images or words with or without hashtags such as: alcohol, booze, drinking, drunk, any type of alcohol such as vodka, wine, beer, mixed drinks, a bar, red solo cups

Choice

Reference to the role choice as it pertains to addiction. Likely would include the word choice, option, alternative, decision

Confusion	Shows either a lack of understanding of subject referenced, or mixed feelings that may contradict each other
Cravings	A distinctive component of addiction. Examples include, reference to cravings, withdrawal, wanting more even though there have been negative consequences, wanting more than other people
Dichotomous thinking	Binary, black and white or extreme thinking - all or nothing, unable to understand another way of seeing things. Examples may include references to perfectionism, only one way, no possibility of another way of thinking, hopelessness
Disease	Reference to the word or concept of disease, medical condition, physical reaction as in like an allergy, with signs and symptoms such as withdrawal, shakes, seizures, persistence in light of negative consequences
Environment	Includes references to addiction being caused or affected by environment. Examples include: trauma, family, friends, media messages
Progression	Reference to the continuum of addiction classified by the DSM-5, whereby the addiction becomes worse over time and through use. References may include: got worse over time, didn't used to be a problem but then became a problem, used to be fun but then became a problem
Recognition of problem	Reference to an understanding an addict or a loved one often comes to - that their addiction is a problem. Includes references to steps individuals or institutions take to prevent addiction
Temperament	May include references to personal vulnerabilities to addiction as aspects of an individual's personality. references to addiction being dependent on personal differences. Examples may be: hopelessness, loner, impulsive, sensation seeker.

Social Support Theme

Addiction experience | May include references to a loved one, friend, acquaintance who suffers or recovered from addiction.

Help seeking | Examples may include, "I need help," "I can't stop," "how do you..."

Identification | Demonstrates identification or empathy. Examples include words like "truth," "100%," "So true," clapping, heart, or prayer emoji

Social influence | Reference to the impact of social influence from family, friends, school, media, etc. May include: "they see their friends doing it," "they hang around with those type of people," "none of my friends do that so it doesn't occur to me."

Testimony | Similar to inspirational stories. The distinction is in the first person narrative that may enable identification and social support. May include sobriety dates, requests for help, cutting recovery, sharing recovery status. Similar to confession but contains a narrative or evolution. May include changing diet, suicide recovery, injury recovery, recovery from accident.

Supportive | Messages of resist the pressure of stigma, tips on how to replace behaviors and thinking that lead to substance abuse, messages of identification, or "you are not alone" oriented messages. May include sober living, combatting stigma, science of physical intimacy. Quotes that support healthy lifestyle, words of encouragement to support healthy psychological, behavioral, and cognitive disciplines that protect against addiction and aid in recovery. Examples may include cognitive behavioral strategies and strategies for relying on social support.

Positive humor	Intended to invoke laughter and provide amusement. May include puns, physical humor, usual connections. may contain self-deprecation to juxtapose healthy vs. unhealthy thoughts and behaviors, choices, habits.
Healthy coping	Similar to healthy activities but includes advice on "how to." Examples may be fitness routines, food portions, healthy food preparation. Messages such as, "keep it up," "you need...," "all you have to do..." Words may include "keep working," "don't give up"

Unhealthy Behaviors Theme

Advertising	May lead to objectification, negative social comparison, minimization of potential harm caused by meta-data tag (hashtag) to which it's attached. Examples may include shoes, alcohol, sunglasses, another account (fan account)
Denial	Similar to avoidance but more active. May include, "I don't have a problem," or "they don't think they have a problem." Examples of an addict or loved one of an addict avoiding the problem. May include: "they just didn't want to do anything about it," "their parents pretend there's no problem," "when I try and talk with them about it they change the subject"
Glamorizing/normalizing	Attempts to make or makes addictive behaviors appear to be attractive or normal. May include attractive individuals smiling and drinking, or an enticing photo of alcohol or drug consumption
Glorified other	May lead to negative social comparison, objectification. minimization of potential harm caused by meta-data tag (hashtag) to which it is attached. May include known substance abusers, reality show stars like Kim Kardashian

Negative humor	Intended to invoke laughter and provide amusement. May include puns, physical humor, unusual connection. May include references to bullying, stigmatized messages, addictive behaviors, substance use and/or abuse. Examples may include references to social rejection, genetalia, drug use, unconsciousness, binge eating, work mistake from drinking, drug use, bar glass.
Objectification	May lead to negative social comparison and minimization of word to which it is meta-tagged (hashtagged). May include movie scenes of idealized or unrealistic body images, elite hair styles. May lead to negative social comparison, objectification. Includes products that alter physical appearances such as lipstick, eyeliner.
Risk behaviors	Actions or hobbies that can lead to substance use and/or abuse, addiction, dangerous behaviors. Examples may be anonymous sexual activities, guzzling alcoholic beverages, underage drinking, illegal substance use, beer pong. May include teen alcohol consumption, marijuana consumption, illegal substance seeking like "do you know where to score some..."
Social isolation	Includes references like: "loner," "lonely," "doesn't really talk to anyone."
Stigma	References that may interfere with help seeking such as, "druggie," "that type of kid," "loser," "drunk," "stupid."
Suggestive	May include individuals posed in a manner to suggest sexual activities or tendencies. Often used to market products.
Using to cope	References to individuals using substances as a result of difficult life circumstances and/or poor coping skills, such as: "they use to cope" or "they do it to escape," "they don't like their life"

Wellness Theme

Growth/change/recovery	Stories or references to recovering from addiction or changing habits such as "today I did the things that I didn't do yesterday" and, "I choose to get better" and "I'm better now" or images of a physical change of appearance. Examples include evidence of improvement over time such as "I was once a 'skinny girl'. I feel better at 135 than I did at 118" or before and after photos. Includes references to recovery specifically such as: "I recovered" or "She's in recovery" or "I'm healed." Includes resources that support health and wellbeing, such as weight loss, massage therapy, meditation, recovery support groups, rehab centers, weight loss, massage therapy. Includes references to recovery specifically such as: "I recovered" or "She's in recovery" or "I'm healed." Includes resources that support health and wellbeing, such as weight loss, massage therapy, meditation, recovery support groups, rehab centers, weight loss, massage therapy. Includes references to addiction being caused, prevented, or recovered from through learning. Examples may include AA, NA, social support and/or influence, therapy, counseling, peer or family exemplar behaviors. Includes references to 12 step recovery and/or jargon such as AA, NA, OA, higher power, sponsor. May include references to rehab, IOP, psychiatrist, psychologist.
Healthy activities	Actions such as hobbies that can replace addictive behaviors. May include fitness, training, sports such as fishing, hunting, soccer, team games, board games. Images or references to physical fitness such as: soccer, weight lifting, yoga, water sports, running.
Healthy coping	Examples include: "I am doing what I need to do today" or "this is how I do life"
Healthy substances	Whole, natural substances such as those found on Federal guidelines for healthy foods. May include fruits, vegetables, nuts, protein, legumes, spices, salad, baked vegetables, vegan food, wholesome meal.